



Question #1: Miscellaneous – Industrial Arts

10 points

<p>Specialty types of this tool go through “dressing” to dull sharp edges, and blacksmiths will tweak theirs to a certain radius. To dissipate the force, sand or steel shot is used in dead-blow versions of this item. Many hatchets are designed to be used like this tool at the unsharpened side of the blade. These tools are sometimes used in conjunction with a punch or chisel, and the ball-peen and claw forms are the most common. Name this hand tool, often used to drive a nail into wood.</p>	<p><u>hammer</u> [prompt on “mallet”]</p>
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Question #2: Literature – British Literature

10 points

<p>When this character dies, his friend says “Now cracks a noble heart.” Just before dying, this person says that he leaves behind a “wounded name” and complains that he “cannot live to hear the news from England.” Much earlier, this character says “To sleep — perchance to dream: ay, there’s the rub!” soon after his uncle, who succeeded this man’s father as king, hides. That speech, which ends with this title character being approached by Ophelia, begins, “To be, or not to be — that is the question.” Name this title Shakespeare character who is the Prince of Denmark.</p>	<p>(Prince) <u>Hamlet</u></p>
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Question #3: Science – Earth Science

10 points

The biggest places to collect this commodity are at **Muppandal** [mup-PAHN-dahl] in India and Gansu in China. The biggest site in the United States to collect this commodity is Alta in the **Mojave** [moh-HAH-vee] Desert in California. This commodity is now collected near Block Island, though a more ambitious proposal for Horseshoe Shoal near Cape Cod has failed. Sites such as Anholt in Denmark allow Denmark to get almost half of its energy from this commodity. There are concerns that the harnessing of this energy is noisy and kills bats and birds. This power exists because of differences in air pressure. Name this power collected by turbines that often look like giant airplane propellers.

wind power [or wind energy; prompt on power or energy]

Question #4: Mathematics – Math Concepts

10 points

In a Taylor series expansion of this type of function, each term has x times a natural log raised to a power, divided by the factorial of that power. An integral of this type of function is found by dividing the original function by a natural log, while a derivative multiplies the original function times a natural log. This type of function is the inverse of a logarithmic function. These functions can be divided into two subtypes, one of which can be used to model interest or populations and the other of which can be used to model radioactivity; those subtypes are growth and decay. Name this type of function that uses a base, which is often 10 or e .

exponential function



Question #5: Social Studies – World History

10 points

<p>This person disguised himself as a milkman to avoid arrest while the Congress of the People drafted the Freedom Charter, and he was later arrested while disguised as a chauffeur. Oliver Tambo and this person started a law firm whose existence ended when both of them became more focused on politics than law. This person gave his “I Am Prepared to Die” speech at the Livonia Trial, where he was sentenced to life in prison. He served many years on Robben Island, but in 1990 he was freed by F. W. de Klerk [klairk]. Name this president of the African National Congress, who in 1994 became the first post-Apartheid [“apart-aid”] president of South Africa.</p>	<p>Nelson (Rolihlahla) <u>Mandela</u></p>
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Question #6: Science – Biology

10 points

<p>The pachytene [PAK-uh-teen] phase is a substage of the first phase of this process. Chiasma [kie-AS-muh] form during the first phase of this process during synapsis. One form of this process produces polar bodies in addition to the final cell. Nondisjunction during this process can result in aneuploidy [AN-yoo-ploy-dee], which in turn can cause conditions such as Down syndrome. Unlike a process which produces autosomes [AW-toh-sohmz], the cells produced by this process are haploid [HAP-loyd] gametes [GAM-eets]. Name this process in which cells divide to form four sex cells.</p>	<p><u>meiosis</u> [my-OH-siss or mee-OH-siss] [accept <u>prophase I</u> before “polar bodies”; do not accept “mitosis”]</p>
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Question #7: Social Studies – Current Events

10 points per part

When President Trump was elected, this person said she would work with him if he supported “the dignity of man, independent of origin”.		
1	Name this former chemist who became the Chancellor of Germany in 2005.	Angela (Kasner) Merkel
2	Merkel has had a strained relationship with this country recently after she criticized it for jailing journalists, and the German parliament voted to recognize that the Ottoman Empire committed genocide against Armenians.	(Republic of) Turkey [or Türkiye Cumhuriyeti]
3	Merkel is supported by two political parties, one of which is the Christian Democratic Union. The other party that supports her, the Christian Social Union, only runs candidates in this southeastern German state.	Bavaria [or Bayern]

Question #8: Social Studies – Current Events

10 points per part

Shinzo Abe [ah-bay] resigned from being the prime minister of this country in 2007, but returned to power in 2012.		
1	Name this country whose legislature is called the National Diet.	Japan [or Nippon -koku or Nihon -koku]
2	In order to increase its influence, Japan has given billions of dollars to this country. It used to be called Burma, and its State Counsellor is Aung San Suu Kyi [awn sahn soo chee].	(Republic of the Union of) Myanmar [mee-YAHN-mar] [or Pyidaungzu Myanma Naingngandaw]
3	In 2016, Abe signed a nuclear pact with this prime minister of India.	Narendra Modi



Question #9: Mathematics – Trigonometry

10 points per part

This mathematical concept corresponds to the physical concept of wavelength.		
1	Give this term for the horizontal distance between crests on a sine or cosine graph.	period
2	For a tangent or cotangent graph, the period is also the distance between these imaginary vertical lines.	asymptotes [“ASS-imp-totes”]
3	Find the period, in degrees, of the graph of y equals the tangent of the quantity 3 times theta.	60 degrees

Question #10: Mathematics – Trigonometry

10 points per part

The graph of this basic trigonometric function has a y -intercept of 1, which is its maximum value.		
1	Name this function that corresponds to the x -coordinate on the unit circle.	cosine function [accept answers that additionally mention a variable]
2	Find the smallest positive value of x , in radians, that is an x -intercept on the graph of the untransformed cosine function.	$\pi/2$ [“ pi over 2 ” or “ pi divided by 2 ”] or $1/2 \pi$ [“ one half times pi ”] [or 0.5π]
3	This name is given to horizontal shifts of periodic graphs such as the cosine graph. One of these shifts is expressed algebraically in the function by adding an angle to x before the cosine, or other periodic function, is applied.	phase shifts



Question #11: Literature – World Literature

10 points per part

Eden, the Earthly Paradise, is found atop this location, the only land mass in the southern hemisphere.		
1	Name this realm in which the terraces are tied to the seven deadly sins.	<u>Purgatory</u> or <u>Purgatorio</u>
2	Virgil leads this Italian author through Purgatory.	<u>Dante Alighieri</u> [DAHN-tay ah-leeg-YAIR-ee] [accept either; accept Durante degli <u>Alighieri</u>]
3	The last terrace, representing lust, is separated from Earthly Paradise by a wall made of this substance, which Dante walked through.	<u>fire</u> [or <u>flames</u>]

Question #12: Literature – World Literature

10 points per part

This character is criticized for using a gramophone to play music by Handel.		
1	Name this “Immortal” whom Harry Haller describes as “the god of my youth, the object, all my life long, of love and veneration”.	Wolfgang Amadeus <u>Mozart</u> [accept Johannes Chrysostomus Wolfgangus Theophilus <u>Mozart</u>]
2	That occurs in this novel. Harry enters the Magic Theater, which is “For Madmen Only”.	<u>Der Steppenwolf</u> [“dare” SHTEP-en-vulf]
3	<i>Der Steppenwolf</i> was written by this author. He fictionalized the life of the Buddha in <i>Siddhartha</i> .	Hermann (Karl) <u>Hesse</u> [HES-uh]



Question #13: Science – Physics

10 points per part

This quantity is the rate at which work is done.		
1	Name this quantity that can be measured in watts.	<u>power</u>
2	For a component in an electric circuit, power can be calculated by multiplying this quantity times electric potential difference.	(electric) <u>current</u>
3	To calculate the power due to an alternating current, this mathematical operation should be applied to the potential difference and the current, then those multiplied. This function is abbreviated “RMS”.	<u>root mean square</u> average

Question #14: Science – Physics

10 points per part

The SI unit for this quantity is the henry.		
1	Name this tendency of an object to oppose <i>changes</i> in electric current.	(electrical) <u>inductance</u> [accept <u>induction</u>]
2	This law states that a changing magnetic field will oppose the current that produced it. In Faraday’s law of induction, the negative sign is a result of this law.	<u>Lenz</u> ’s law
3	Faraday’s law is one of these four equations that govern electromagnetism.	<u>Maxwell</u> ’s equations [accept Maxwell- <u>Heaviside</u> equations]



Question #15: Fine Arts – Classical Music & Opera

10 points

Camille Saint-Saëns [kah-meel san sawn] wrote a barcarolle in this key. This key is used in “Autumn” in Vivaldi’s *The Four Seasons* and in the first two pieces in Bach’s *Brandenburg Concertos*. Some composers associated this key with the outdoors, leading to some symphonies in it being labeled as pastoral, including Beethoven’s 6th Symphony. The major seventh chord in this key uses the notes that are spaces between the lines in treble clef. Its dominant tone, or fifth, is C. This key has the same key signature as D minor. Name this major scale whose only flat is B flat.

F major [do not accept answers containing “sharp” or “flat” or “minor”]

Question #16: Social Studies – U.S. History

10 points

Many criticisms of this religion were made in *Awful Disclosures of Maria Monk*, which was eventually discredited. People of this religion were the targets of the Nativist Riots of 1844 in Philadelphia. This was the religion of a prominent radio broadcaster heavily critical of Franklin Roosevelt, Charles Coughlin. This is the religion of Nancy Pelosi and Joe Biden. Much of the resistance against this religion in U.S. history was tied to **xenophobia** [zee-noh-FOH-bee-uh] against Irish immigrants. Name this religion of the 1928 Democratic presidential candidate, Al Smith, and the winner of the 1960 presidential election, John Kennedy.

Roman **Catholicism**
[prompt on **Christianity**]



Question #17: Literature – Mythology

10 points

Androgeos' [an-droh-JEE-ohss'z] victories in this city's athletic games led to his rivals murdering him. One king of this city threw himself into the sea upon seeing his son's ships with black sails. **Medea** [meh-DEE-uh] was driven out of this city following an attempt to poison the son of King **Aegeus** [ee-JEE-uss]. This city was supposed to send people to Crete to be sacrificed to the **Minotaur** [MIN-oh-tor], but that practice ended when **Theseus** [THEE-see-uss] killed the Minotaur. Poseidon offered this city a salt spring, but lost the naming rights to the goddess who offered an olive tree. Identify this Greek city named for the goddess of wisdom.

Athens, Greece [or
Athena or Athenai]

Question #18: Science – Chemistry

10 points

The common name used for the copper carbonates **malachite** [MAL-uh-"kite"] and **azurite** [AZ-uh-"rite"] make clear that they are this type of compound. **Grignard** ["GRIN-yard"] reagents are used as this type of compound to create **alkoxides** [alk-"oxides"], which are these kinds of "conjugate" compounds relative to alcohols. These compounds **hydrolyze** ["hydro-lies"] esters in **saponification** [suh-PAH-nih-fih-KAY-shun]. Name these compounds that donate a pair of electrons according to Lewis theory, and which produce **hydroxide** ["hi"-DRAHK-"side"] ions in water according to **Arrhenius** [uh-REE-nee-uss] theory.

base [or basic compounds;
or alkaline compounds or
alkalines]



Question #19: Social Studies – Geography

10 points

<p>In this country in 2010, Sofifi on the island of Halmahera replaced Ternate City as the capital of North Maluku [muh-LOO-koo] province. Those locations are in what used to be known as the Spice Islands. The western end of this country attempted to gain independence in the Free Aceh [AH-cheh] Movement that was quieted after the massive 2004 tsunami. That part of this country is on Sumatra. East Timor seceded from this country in 1999. The eastern end of this country shares an island with Papua New Guinea. This country also includes the world’s most populous island, Java. Name this country whose capital is Jakarta.</p>	<p>(Republic of) <u>Indonesia</u></p>
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Question #20: Literature – World Literature

10 points

<p>At the beginning of this play, one character wonders aloud about guests’ concerns with their toothbrushes. Later in this play, one character asks a man whom she assumes is a torturer about Florence, but later criticizes that man for twisting his mouth. This play takes place within a drawing-room that has Second Empire furniture, and to which characters are brought by a Valet with no eyelids. In this play, Inez offers to act like a mirror to Estelle. Name this play in which Garcin [gar-san] declares “hell is other people”, written by Jean-Paul Sartre.</p>	<p><u>No Exit</u> [or <u>Huis Clos</u>]</p>
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Question #21: Mathematics – Algebra

10 points per part

A rational function can be thought of as this kind of mathematical thing, with both parts being polynomials.		
1	Name these expressions that include a numerator and a denominator.	fractions [or ratios ; prompt on division or similar answers; prompt on rational numbers or rationals]
2	Simplify the fraction whose numerator is $8x - 20$ and whose denominator is $20x - 50$. Assume that x is not $2\frac{1}{2}$.	<u>2/5</u> or <u>0.4</u>
3	Find both values of x for which the following fraction is not defined: The numerator is $x^2 - 7x + 12$ ["x squared, minus 7 x, plus 12"] and the denominator is $x^2 + 2x - 24$ ["x squared, plus 2 x, minus 24"].	-6 and 4 [either order; make sure the -6 is negative and the 4 is positive]

Question #22: Mathematics – Algebra

10 points per part

If a linear equation is written in the form $y = mx + b$, the m represents this number.		
1	Name this quantity that can be calculated as "rise over run".	slope
2	Find the slope of the line generated by the equation $3x + 5y = 9$.	-3/5 [or -0.6 or -.6 ; do not prompt on partial answers]
3	Find the slope of the line generated by the polar equation $r = 3$ divided by the quantity 7 sine theta minus 2 cosine theta.	2/7



Question #23: Fine Arts – Art History

10 points per part

Shah Jahan ordered this mausoleum [maw-zoh-LEE-um] to be built to memorialize his favorite wife, whose original name was Arjumand Banu Begum.		
1	Name this structure in Agra, India.	<u>Taj Mahal</u>
2	Though the Taj Mahal includes sandstone, its white color is principally from this rock.	<u>marble</u> [prompt on <u>limestone</u>]
3	The mausoleum is between two buildings, one of which is a mosque and the other of which looks like the mosque on the outside. This is the name of the other building; it means “answer”.	<u>Jawab</u>

Question #24: Fine Arts – Art History

10 points per part

A group in India is working on a statue of Vallabhbhai [VAH-lahb-by] Patel, the Statue of Unity, that they claim will be the largest statue in the world. Name these other large statues.		
1	This limestone statue, created about 2500 BCE, shows the body of a lion and the face of a man. It is 240 feet long.	Great <u>Sphinx</u> of Giza
2	Several of the tallest statues in the world show a person who has attained this religious status. Among them are the Spring Temple in China, showing Vairocana [“vie”-roh-KAH-nah], and the Laykyun Sekkya [“LAKE”-yoon SEK-yah] in Myanmar, showing Gautama.	(samyaksam) <u>buddha</u> (hood)
3	The largest statue of a woman in the world is <i>The Motherland Calls</i> , which was built as a monument to this battle.	Battle of <u>Stalingrad</u>



Question #25: Social Studies – U.S. History

10 points per part

The last person who held this position was Kenneth Royalle, who became Secretary of the Army when the position was abolished.		
1	Name this previous position similar to the current Secretary of Defense.	Secretary of <u>War</u>
2	This Secretary of War under Franklin Pierce later became President of the Confederate States.	Jefferson (Finis) <u>Davis</u>
3	Andrew Johnson was impeached for trying to fire this Secretary of War.	Edwin (McMasters) <u>Stanton</u>

Question #26: Social Studies – U.S. History

10 points per part

A controversy over whether or not Tennessee and West Virginia had ratified this amendment was decided in <i>Leser v. Garnett</i> .		
1	Name this amendment, ratified in 1920, that gives women the right to vote.	<u>19th</u> Amendment
2	Some early versions of the 19th Amendment were named for this woman, who was arrested for voting in 1872. She and Elizabeth Cady Stanton started the National Woman Suffrage Association.	Susan B(rownell) <u>Anthony</u>
3	During a split in the women's suffrage movement, this person co-founded the American Woman Suffrage Association. This person also started <i>Woman's Journal</i> with her husband, Henry Browne Blackwell.	Lucy <u>Stone</u>



Question #27: Literature – British Literature

10 points per part

This figure is a “slave to fate, chance, kings, and desperate men”, and is said to dwell with poison, war, and sickness.		
1	Name this personified figure. The speaker of the poem in which it appears claims that this is inferior to poppy and charms, with regard to sleep.	Death [accept Death , Be Not Proud]
2	This poet wrote “Death, Be Not Proud”; it is the tenth of his Holy Sonnets.	John Donne [dun]
3	At the end of “Death Be Not Proud,” the speaker claims that following a short sleep, Death shall be no more, and concludes the poem with this three-word declaration aimed at Death.	Death, thou shalt die

Question #28: Literature – British Literature

10 points per part

The second stanza of this poem praises wise men whose “words had forked no lightning.”		
1	Name this poem that advises people to “Rage, rage against the dying of the light.”	“Do not go gentle into that good night”
2	“Do not go gentle into that good night” is by this author. He also wrote the radio play <i>Under Milk Wood</i> .	Dylan (Marlais) Thomas
3	<i>Under Milkwood</i> is set in the fictional village of Llareggub [LAR-ih-gub] in this country, which Thomas was from.	Wales [prompt on Great Britain or the United Kingdom or the U.K. ; do not accept “England”]



Question #29: Science – Physics

10 points

<p>Max Born explained how the existence of a rigid body is consistent with this theory, which led Paul Ehrenfest [“AIR”-un-fest] to develop a paradox with a rotating cylinder whose radius takes on more than one value. This theory was first explained in the paper “On the Electrodynamics of Moving Bodies”, which demonstrated that the Maxwell-Hertz [“hurts”] equations are consistent with an application of Lorentz transformations. That paper introducing this theory weakened the concept of simultaneity and demonstrated a relationship between speed and mass. Name this theory based on the idea that the speed of light is the same in all reference frames, developed by Albert Einstein.</p>	<p>special theory of relativity</p>
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Question #30: Social Studies – World History

10 points

<p>In 1860, this city’s Old Summer Palace was destroyed under orders from Lord Elgin after its Summer Palace was looted by English and French forces. In 1900, the Eight-Nation Alliance protected diplomats in this city during the Siege of the International Legations during a rebellion started by a sect called The Righteous and Harmonious Fists. A famous picture taken in 1989 in this city shows a man standing in front of a column of tanks headed towards Tiananmen [tee-AHN-ahn-men] Square. Name this city that contains the Forbidden City and is the capital of China.</p>	<p>Beijing, China [or Peking]</p>
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Question #31: Literature – U.S. Literature

10 points

<p>One of this author’s characters is called “Miss Spiritual Tramp of 1948” by her husband, and her mother complains that the husband was allowed to leave the Army Hospital. One of this author’s books contains two connected stories, the first of which is about a woman obsessed with “the Jesus prayer” who visits her boyfriend at college, and both of which are about the Glass family. This author also wrote a novel about a boy who stays at the Edmont Hotel in New York after leaving Pencey Prep. Name this author of <i>Franny and Zooey</i> and “A Perfect Day for Bananafish”, who wrote about Holden Caulfield in <i>The Catcher in the Rye</i>.</p>	<p>J(erome) D(avid) <u>Salinger</u></p>
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Question #32: Mathematics – Math Concepts

10 points

<p>A metric space is a space in which this quantity is defined. Along the graph of a function, this quantity equals the integral of the square root of the quantity the derivative squared plus one. For two vectors, this quantity is calculated by taking the difference of each coordinate and then taking the square root of the sum of the squares of those differences. That formula can be justified on the Cartesian plane by using the Pythagorean theorem. On the number line, this quantity for two numbers equals the absolute value of the difference between them. Give this term for the length of a path — often in a straight line — between two points.</p>	<p><u>distance</u> [accept <u>norm</u> or <u>magnitude</u>; accept arc <u>length</u> before “length”; prompt on <u>path</u>]</p>
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Extra Question #1: Science – Physics

10 points

When this phenomenon is studied in astronomy, it is classified as either B-mode or E-mode based on whether it is caused by a magnetic or electric field. A common type of this phenomenon is the elliptical type, which may be further classified as circular or linear. This phenomenon is observed after light is reflected at Brewster's angle. The cosine of theta, quantity squared, is used in Malus' law to quantify the intensity of this phenomenon when it is created by filters. This phenomenon is used to reduce glare and to create 3D movies. Name this phenomenon in which light waves vibrate within a plane.

polarization [or
polarizing or polarized
light]

Extra Question #2: Social Studies – U.S. History

10 points

According to legend, this person bought the TV station KLAS-TV so that he could control what late-night movies they showed. That station became part of this person's Summa Corporation, which formed after he sold his tool company. When he died, much of his money went to his namesake Medical Institute in Chevy Chase, Maryland. This person took control of the Desert Inn in Las Vegas so that he could stay on its top floor. He produced major films and owned Trans World Airlines. Name this billionaire whose H-4 Hercules flying boat was known as the Spruce Goose.

Howard Hughes (Jr.)



Extra Question #3: Fine Arts – Art History

10 points

<p>The building in the right background of this painting is red, and the white building in the central background has a double-hung window on the first floor and a pointed arch window on its top floor. The woman in this painting, who has her hair parted in the middle, is slightly behind the man, who is bald and has round glasses, and looks forward with wide eyes. This 1930 regionalist painting is set in Iowa. Name this Grant Wood painting in which the man is holding a pitchfork.</p>	<p><u><i>American Gothic</i></u></p>
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Extra Question #4: Literature – U.S. Literature

10 points

<p>In this poem, a torch “whose flame is the imprisoned lightning” is held by the “Mother of Exiles”. The opening line of this poem contrasts its subject with a creation of Chares [“carries”] of Lindos, “with conquering limbs astride from land to land”. This sonnet tells “ancient lands” to keep their “storied pomp.” This poem ends with the line “I lift my lamp beside the golden door!”, and is about “a mighty woman with a torch”. This poem states, “Give me your tired, your poor, your huddled masses yearning to breathe free.” Name this poem that Emma Lazarus wrote for the Statue of Liberty.</p>	<p>“The <u>New Colossus</u>”</p>
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Extra Question #5: Mathematics – Math Concepts

10 points

This mathematician is the namesake of a variation on the fundamental theorem of calculus that allows differentiating under the integral sign for a multivariable function, called his “integral rule”. He observed that if the terms of a sequence switch signs and decrease in absolute value, the associated series converges. Much of this person’s fame comes from a 1686 article whose title means “On a hidden geometry and analysis of indivisibles and infinites”, that appeared in the journal *Acta Eruditorum*. This mathematician introduced an elongated ‘S’ for integrals and the dy/dx [“D Y D X”] notation for derivatives. Name this German mathematician who shares credit with Isaac Newton for developing calculus.

Gottfried Wilhelm (von)
Leibniz



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

10 points per part

This fictional object was discovered by Fitz-Norman Culpepper Washington, and it was eventually blown up.		
1	Name this object that is hidden in a mountain in Montana.	the Diamond as Big as the Ritz [accept any answer containing diamond and, possibly, the notion of enormity]
2	This author of “The Diamond as Big as the Ritz” wrote another novel in which Myrtle Wilson is run over by a car, <i>The Great Gatsby</i> .	F(rancis) Scott (Key) Fitzgerald
3	Fitz-Norman kept his slaves by lying to them about the outcome of the Civil War using a fake proclamation attributed to this Confederate general. After the war, this man became the first Grand Wizard of the Ku Klux Klan.	Nathan Bedford Forrest

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

10 points per part

In this novel, Mr. Dark has a tattoo of each person he has entrapped.		
1	Name this novel set in Green Town, in which William Halloway almost falls victim to a malevolent circus leader, but is saved by his father and Jim through laughter and affection.	<i>Something Wicked This Way Comes</i>
2	<i>Something Wicked This Way Comes</i> is by this science-fiction author.	Ray(mond Douglas) Bradbury
3	The title of <i>Something Wicked This Way Comes</i> comes from a line in this Shakespeare play known as the Scottish Play.	(The Tragedy of) Macbeth



Extra Question #8: Science – Biology

10 points per part

This process can take place via fission or budding.		
1	Give this general term for reproduction in which there is only one parent.	<u>asexual</u> reproduction
2	Some bacteria, fungi, and green plants reproduce asexually using these cells. This word can also refer to an unrelated structure that some bacteria create to survive hostile environments.	<u>spores</u>
3	Seed-bearing plants sometimes also produce two types of spores. This is the term for the spore that germinates into a female gametophyte [gam-“EAT-oh-fight”].	<u>megaspore</u> (s) or <u>macrospore</u> (s)

Extra Question #9: Science – Biology

10 points per part

This process can be classified as divergent, convergent, or parallel, depending on the initial conditions and influences of environmental pressure.		
1	Natural selection drives what long-term process by which organisms change?	<u>evolution</u> [or <u>evolving</u>]
2	This evolutionary process occurs when populations become reproductively isolated. The sympatric [sim-“Patrick”] type of this process occurs without geographic separation.	<u>speciation</u> [spee-see-AY-shun] [accept descriptive answers indicating the formation of new <u>species</u>]
3	This type of speciation occurs when populations are physically cut off from each other.	<u>allopatric</u> [al-oh-“Patrick”] speciation or <u>allopatry</u>