

## 2010 Collaborative Middle School Tournament

### Round 4

#### Tossups

1. During this battle, Marshal Ney led a cavalry assault that was turned back by infantry squares on the road to Brussels. It ended with the repulse of an attack by grenadiers of the Imperial Guard and the arrival of Blucher's ("BLUE-kers") Prussian army, which saved a combined force of Dutch and British led by the Duke of Wellington. For 10 points, name this 1815 battle, the final defeat of Napoleon.

ANSWER: Battle of **Waterloo**

2. In this author's first Pulitzer Prize-winning work, the Generalissimo orders the execution of Corporal Zsettslani ("SET-slah-nee"). His second Pulitzer-winning novel revolves around Lucius Priest, a resident of Yoknapatawpha ("YOCK-NAH-puh-TAH-fuh") County. This author wrote novels about Thomas Sutpen and about the death of Addie Bundren. For 10 points, name this American author of *Absalom!* *Absalom!*, *As I Lay Dying*, and *The Sound and the Fury*.

ANSWER: William **Faulkner**

3. One form of this concept is equal to the product of charge and voltage. For a spring, this quantity is given by one-half times the spring constant times the square of the distance from equilibrium. The gravitational form of this quantity is equal to an object's weight times its height. For 10 points, give this "stored" energy that is converted into kinetic energy.

ANSWER: **potential energy** [or **potential** energy after "energy"; prompt on **energy**]

4. Friezes removed from this building in 1812 are now housed in the British museum and are known as the Elgin Marbles. This building housed a statue that holds Nike in her right hand; that statue was created by Phidias ("FID-ee-us") and is a cult statue dedicated to Athena. For 10 points, name this temple with Doric columns on the Acropolis in Athens.

ANSWER: The **Parthenon**

5. One Canada Square, the tallest building completed in this city, is meant to rival its traditional financial center, home to a cathedral designed by Christopher Wren. Its namesake "Eye" is Europe's tallest Ferris wheel. Landmarks here include the Tate Modern and Westminster Abbey. For 10 points, Buckingham Palace is located in what city on the Thames ("temz"), the capital of the United Kingdom?

ANSWER: **London**

6. Early in January 2010, copper miners working for Codelco in this nation ended a strike. The government of this country was criticized for utilizing the military to restore order, citing the oppression of former president Augusto Pinochet ("PIN-oh-shay"). It is led by outgoing president Michelle Bachelet ("BASH-uh-lay"). For 10 points, name this South American country, which recently was struck by a devastating earthquake.

ANSWER: Republic of **Chile**

7. This figure protected the seven daughters of Jethro, one of whom, Zipporah, became this figure's wife. This son of Yocheved ("YO-keh-ved") once killed an Egyptian overseer who was beating a slave, after which this brother of Miriam fled to Midian until God appeared to him in the form of a burning bush. For 10 points, name this leader of the Israelites who begged Pharaoh to "let my people go."

ANSWER: **Moses**

The 2010 Collaborative Middle School Tournament was overseen by Andy Watkins and written by Nick Bergeon, Matt Bollinger, Matthew Dirks, Zach Foster, David Garb, Jeff Hoppes, Sandy Huang, Idris Kahloon, Tanay Kothari, Kay Li, Charles Martin, Trygve Meade, Aidan Mehigan, Charlie Rosenthal, Donald Taylor, and Dwight Wynne. Jeff Hoppes, Jeff Price, Donald Taylor, and Dwight Wynne served as the primary editors and proofreaders.

## 2010 CMST - Round 4

8. In 1948 Nathuram Godse (“nuh-THOO-ram GOD-see”) shot this man, whose major work, *Hind Swaraj* (“HINNED SWAR-ahzh”), was published in South Africa before World War I. His protest against the salt tax was part of his campaign of satyagraha (“SOT-yuh-GRAH-hah”), which sought to undermine British rule through non-cooperation. For 10 points, what nonviolent leader of India's independence movement was known as the Mahatma?

ANSWER: Mohandas (Karamchand) **Gandhi** [or Mahatma **Gandhi** before mentioned]

9. The Dewar equation defines this quantity for density-dependent variables. Species that exhibit exponential population growth appear to lack this value, and in logistic population growth, the per capita rate of increase approaches zero near this value. For 10 points, name this ecological term, often denoted  $k$ , which is the maximum population that can be sustained by an ecosystem.

ANSWER: **carrying capacity** [prompt on **k** before mentioned]

10. The title figure looks "a little like a military man" in this group's song about a meter maid, "Lovely Rita." Peter Frampton starred in a movie based on this group's album *Sergeant Pepper's Lonely Hearts Club Band*. They recorded the album *Abbey Road* shortly before breaking up in 1970. For 10 points, name this band from Liverpool, England whose hit "Eleanor Rigby" was written by Paul McCartney.

ANSWER: The **Beatles** [accept **Lovely Rita** before "this group"]

11. One of this deity's possessions is a ring that creates eight copies of itself every nine nights. This deity learned nine songs and eighteen runes after hanging from the world tree for nine days. Huginn (“HOO-ginn”) and Muninn (“MOO-ninn”) bring information from the various lands of this deity's pantheon to his throne. Fenrir (“FEN-reer”) will kill this deity at Ragnarok (“RAG-nuh-rock”). For 10 points, name this god of poetry and wisdom, the leader of the Norse pantheon.

ANSWER: **Odin**

12. Two of these entities are responsible for the Great Rift Valley located in East Africa. Subduction zones are found along them. Several of them are responsible for the area of volcanic activity known as the Ring of Fire, though movement along them more famously causes earthquakes. For 10 points, identify these gaps in the Earth's crust, which include one in California called the San Andreas.

ANSWER: **fault**

13. In one work, this writer wrote about Otto, whose scientific curiosity is not shared by Axel Lidenbrock (“LIE-den-brock”). In another of his novels, the *Abraham Lincoln* is captained by Pierre Aronnax (“AIR-oh-nax”) and the *Nautilus* is captained by Captain Nemo. For 10 points, name this French writer who wrote *Journey to the Center of the Earth* and *Twenty Thousand Leagues Under the Sea*.

ANSWER: Jules **Verne**

14. The first Supreme Court case to deal with this doctrine was *Regents of the University of California v. Bakke*, which dealt with the question of whether it should be viewed as reverse discrimination. Although it also covers jobs and promotions, for 10 points, what doctrine is most controversial for its attempts to provide members of disadvantaged groups enhanced opportunities for admission to educational institutions?

ANSWER: **affirmative action**

15. Paul Wittgenstein (“VIT-gen-SHTINE”) commissioned concertos for this instrument that used only the left hand. This instrument is said to have been invented by Bartolomeo Cristofori (“BAR-tow-lo-MAY-oh KRIS-tow-for-ee”). It was originally named for its ability to play both loud and soft sounds, which made it an improvement over the clavichord and harpsichord. For 10 points, name this musical instrument that has thirty-six black and fifty-two white keys.

ANSWER: **piano** [accept **pianoforte**]

## 2010 CMST - Round 4

16. This character was named after the wife of King Leontes in *The Winter's Tale*. This character forms an organization called S.P.E.W., and purchases a half-cat, half-kneazle ("NEE-zul") known as Crookshanks. Though she is called a "mudblood" because of her dentist parents, she is smart enough to have memorized "Hogwarts: A History." For 10 points, name this female companion to Harry and Ron in the "Harry Potter" series.

ANSWER: **Hermione Granger** [accept either]

17. This term denotes any algebraic expression written as the quotient of two polynomials. If the discriminant of a quadratic equation is a perfect square, then both roots of that equation are of this type. All numbers denoted by this term are algebraic. For 10 points, give this term that denotes any number that can be written as  $\frac{a}{b}$ , where  $a$  and  $b$  are integers.

ANSWER: **rational**

18. In this novel, Frederick and Pilkington do business with the title entity. Sugarcandy Mountain exists in this novel, according to a talking raven. At the end of this novel, the glue factory receives the body of Clover's workmate named Boxer. Mr. Jones is chased away by Squealer, Old Major, Snowball, and Napoleon in, for 10 points, what novel written by George Orwell?

ANSWER: **Animal Farm**

19. This star served as a marker for the ancient Egyptians' calendar system. Along with Procyon ("PRO-sy-on") and Betelgeuse ("beetle juice"), it forms the winter triangle. This star can be found by following the belt of Orion down and to the left. Friedrich Bessel discovered its "wobble," which was revealed to be a companion star now known to be a white dwarf. For 10 points, identify this brightest star in the night sky, nicknamed the "Dog Star."

ANSWER: **Sirius**

20. During this battle, the defending side's left flank was anchored by Little Round Top. George Meade chose not to pursue the attackers after this battle, which ended with a failed attack against Cemetery Ridge called Pickett's Charge. For 10 points, the Confederate invasion of Pennsylvania ended at what battle, which was commemorated in a namesake address given by Abraham Lincoln?

ANSWER: Battle of **Gettysburg**

Extra. Andy Warhol's *Thirty are Better than One* contains thirty reproductions of this painting. Marcel Duchamp created *L.H.O.O.Q.* by drawing a mustache on it. In August 2009 a Russian woman threw a teacup at it after being denied French citizenship. It is probably a portrait of Francesco del Giocondo's ("JEE-oh-CON-doze") wife, and is housed in the Louvre ("LOOV-ruh"). For 10 points, name this Leonardo da Vinci painting of a woman with an "enigmatic" smile.

ANSWER: the **Mona Lisa** [accept La **Gioconda** or La **Joconde** before "Giocondo" and prompt afterwards]

## 2010 CMST - Round 4

### Bonuses

1. For 10 points each, name these Australian cities:

[10] This largest city in Australia is this capital of New South Wales known for its Opera House.

ANSWER: Sydney

[10] The Australian Open tennis tournament is hosted by this second largest city in Australia.

ANSWER: Melbourne

[10] This capital of Tasmania is a popular point of departure for voyages to Antarctica.

ANSWER: Hobart

2. This country's Sengoku Jidai (“sen-GO-ku JEE-dye”), or Warring States Period, took place in the 15th and 16th centuries. For 10 points each:

[10] Name this island nation that saw leaders such as Oda Nobunaga (“no-boo-NAH-gah”) attempt to unify the land.

ANSWER: Japan

[10] The warrior nobles of early modern Japan, who followed the code of bushido (“boo-SHEE-doe”) and used swords called katana, are known by this name.

ANSWER: samurai

[10] While the emperor was merely a figurehead, until the mid 19<sup>th</sup> century Japan was ruled by leaders known by this title. The last clan to hold it was the Tokugawa.

ANSWER: shogun

3. These objects are the largest reservoirs of fresh water on Earth. For 10 points each:

[10] Name these massive bodies of ice that move over land. They exist when the accumulation of snow and ice exceeds the rate of erosion.

ANSWER: glaciers

[10] This type of glacier is also known as a cirque (“SIRK”) glacier. They form at altitudes high enough for the snow to not melt during the summer.

ANSWER: alpine glacier [or mountain glacier]

[10] Glaciers create these long narrow inlets that are numerous in Norway. They generally have very steep sides.

ANSWER: fjords (“fyords”)

4. This personification of the sky was the husband of Gaea and the father of the Titans. For 10 points each:

[10] Name this god who was undone by a sickle wielded by one of his sons.

ANSWER: Uranus [accept Ouranos]

[10] This Titan castrated Uranus. He would later swallow the children of his wife Rhea in order to combat the prophecy that one of his children would overthrow him.

ANSWER: Cronus [accept Saturn]

[10] One story concerning the birth of this deity holds that she was born when the cut parts of Uranus fell into the ocean. She fought with Persephone over Adonis, and was given a golden apple by Paris for being the fairest.

ANSWER: Aphrodite

## 2010 CMST - Round 4

5. Proponents of this movement included Édouard Manet, Edgar Degas, and Mary Cassatt. For 10 points each:

[10] Name this late nineteenth-century French art movement that focused on capturing the effect of the moment depicted, rather than clearly defining it.

ANSWER: **Impressionism**

[10] Impressionism got its name from this man's *Impression, Sunrise* depicting the harbor at Le Havre. He also painted several views of Rouen Cathedral, a series of haystacks, and a bunch of water-lilies.

ANSWER: Claude **Monet**

[10] In his later years, Monet had a house and gardens in this French town. It was here that he painted his water-lilies and Japanese bridges.

ANSWER: **Giverny**

6. This island's six northern counties are still ruled by Britain. For 10 points each:

[10] Name this island, where a faction called the Republican Army tried to end British rule.

ANSWER: **Ireland**

[10] A nineteenth-century famine that devastated Ireland resulted from British economic restrictions and a mold attack on this crop.

ANSWER: **potatoes**

[10] This fifth-century missionary is Ireland's patron saint.

ANSWER: Saint **Patrick** [or **Patricius**]

7. For 10 points each, answer these questions about a science fiction writer born in Waukegan, Illinois:

[10] This novel by that author follows Guy Montag as he first works as a "fireman," then flees the firemen after being caught owning a book.

ANSWER: **Fahrenheit 451**

[10] *Fahrenheit 451* was written by this author. He also wrote *Fever Dream* and *Something Wicked This Way Comes*.

ANSWER: Ray **Bradbury**

[10] This other work by Bradbury describes how the title beings were nearly wiped out by an expedition to their home planet. After nuclear war on Earth, the remaining colonists discuss becoming the "new" title beings.

ANSWER: *The* **Martian Chronicles**

8. For 10 points each, name these things about RNA:

[10] This is the process by which genetic information is transferred from DNA to messenger RNA.

ANSWER: **transcription** [accept **RNA synthesis**]

[10] This nitrogenous ("nye-TRAH-jen-us") base is present in RNA instead of thymine.

ANSWER: **uracil**

[10] tRNA, or transfer RNA, is found in these small organelles, which synthesize proteins.

ANSWER: **ribosomes** ("RYE-bo-soams")

9. For 10 points each, identify the following Constitutional Amendments.

[10] The only one to ever be repealed, this 20th century "noble experiment" forbade the sale of alcohol. It was later removed by the Twenty-first Amendment.

ANSWER: **Eighteenth** Amendment

[10] Created in response to the Supreme Court case of *Pollock vs. Farmer's Loan and Trust*, this amendment created the federal income tax.

ANSWER: **Sixteenth** Amendment

[10] Adopted as a result of *Chisholm v. Georgia*, this amendment requires that the defendant state consent to a lawsuit, otherwise an individual from another state cannot sue that state.

ANSWER: **Eleventh** Amendment

## 2010 CMST - Round 4

10. For 10 points each, name these religions founded in Asia:

[10] The Vedic ("VAY-dick") religion was an early form of this faith whose primary texts include the Ramayana ("RAH-my-ahn-uh") and the Mahabharata ("muh-HAH-buh-RAH-tuh"). Its fundamental principles include the reincarnation of one's soul, or atman ("OTT-mon"), and eventual liberation, or moksha ("MOCK-shuh").

ANSWER: **Hinduism**

[10] Mahavira ("MAH-hah-VEER-uh") founded this religion that focuses on the concept of ahimsa ("uh-HIM-suh"), or non-injury to all things living. Followers do not worship a central god; instead, they follow figures known as Tirthankaras ("TEER-thahn-CAR-uhs").

ANSWER: **Jainism**

[10] The chief house of worship in this religion is the Golden Temple at Amritsar ("AHM-rit-sahr"), built by Guru Arjun ("AR-june"). Most of its followers live in Punjab, and its dominant sect follows the five Ks, which include a ceremonial dagger and leaving one's hair unshaven.

ANSWER: **Sikhism**

11. For 10 points each, answer the following about circuits:

[10] Circuits always need a voltage source. The double-A kind of these objects can produce 1.5 volts, and another common type of these devices produces 9 volts.

ANSWER: **battery**

[10] In a circuit, a light bulb functions as one of these devices. These devices are used to slow down the flow of electrons and are governed by Ohm's Law.

ANSWER: **resistors**

[10] In this circuit configuration, current must pass directly from one light bulb to another; thus, if one light bulb goes out, all light bulbs in the circuit go out.

ANSWER: in **series**

12. The Soviet Union was involved in some memorable Olympic sporting matches. For 10 points each:

[10] This is the colloquial name given to the 1980 Winter Olympics hockey semifinal, in which the underdog United States team improbably defeated a heavily favored U.S.S.R. team.

ANSWER: **"Miracle on Ice"**

[10] The U.S. refused a silver medal after losing a controversial basketball game to the U.S.S.R. in the Summer Olympics of what year, more memorable for the massacre of 11 Israeli Olympians by the Black September group?

ANSWER: **1972**

[10] The 1956 "Blood in the Water" game, in which Hungary defeated the U.S.S.R. 4-0, is the most well-known game ever played in this sport, in which six offensive players swim around trying to throw a ball into a goal.

ANSWER: **water polo**

13. For 10 points each, answer the following about British poetry:

[10] "Theirs not to reason why/ theirs but to do and die" is a line in this poem that describes a disastrous event during the Battle of Balaclava.

ANSWER: *The **Charge of the Light Brigade***

[10] This British poet laureate and author of *Locksley Hall* wrote *The Charge of the Light Brigade*.

ANSWER: Alfred "Lord" **Tennyson**

[10] Originally titled "The Way of the Soul," this Tennyson poem was composed after his friend Arthur Henry Hallam died of a stroke.

ANSWER: ***In Memoriam A.H.H.***

## 2010 CMST - Round 4

14. This territory was established as a republic led by Sam Houston and Stephen Austin. For 10 points each:

[10] Name this region, which broke away from Mexico and became a state in 1845. Its flag bears a single star.

ANSWER: (Republic of) **Texas**

[10] The best-known battle of the Texas Revolution took place at this mission in San Antonio, where Davy Crockett was killed.

ANSWER: the **Alamo**

[10] Mexican forces at the Alamo were led by this man, who became Mexico's leader after an 1833 coup.

ANSWER: Antonio Lopez de **Santa Anna**

15. This man's namesake constant ties together cosmological velocity and distance. For 10 points each:

[10] What American astronomer is better known as the inspiration for a space telescope?

ANSWER: Edwin **Hubble**

[10] The Hubble telescope has given us detailed images of this structure located in Taurus. Number 1 in the Messier catalog, it is the result of a 1054 supernova.

ANSWER: **Crab Nebula**

[10] Launch of the Hubble telescope was delayed by the explosion that destroyed this space shuttle on January 28, 1986. A cracked O-ring led to the death of all seven crew.

ANSWER: Space shuttle **Challenger**

16. A serpent eats a pile of gold and sacrifices himself to become a bridge across a river in this man's fairy tale, *The Green Snake and the Beautiful Lily*. For 10 points each:

[10] Name this member of the *Sturm und Drang* ("STOORM und DRAHNG") movement who wrote *The Sorrows of Young Werther* ("VAIR-tuhr").

ANSWER: Johann Wolfgang von **Goethe** ("GAIR-tuh")

[10] In this most famous play by Goethe, the demon Mephistopheles ("MEFF-iss-TOFF-uh-leez") tries to turn the title knowledge-seeker away from God by showing him worldly pleasures.

ANSWER: **Faust**

[10] Johann Wolfgang von Goethe wrote in this language. Other writers in this language include the Nobel Laureates Thomas Mann ("MONN"), Hermann Hesse ("HESS-uh"), and Herta Muller.

ANSWER: **German** [accept **Deutsch**]

17. For 10 points each, answer the following about the Christmas Day bombing scare:

[10] This home country of alleged suspect Umar Abdulmutallab ("ahb-DOOL-moo-TALL-ahb") is home to terrorist group MEND, who has recently been sabotaging foreign gas companies there.

ANSWER: **Nigeria**

[10] The plane where the attempted bombing took place was part of this airline, which officially merged with Delta on January 31st.

ANSWER: **Northwest** Airlines

[10] The handling of Abdulmutallab was recently criticized by this former Vice President. He suffered a mild heart attack on February 22nd.

ANSWER: Richard (Dick) **Cheney**

## 2010 CMST - Round 4

18. At least one part of this bonus requires computation. Consider the equation  $x^2 + 6x + 5 = 0$ . For 10 points each:

[10] This equation can be solved via a method whose first step is adding four to both sides. What is this method called?

ANSWER: completing the square

[10] This equation can also be solved by rewriting  $x^2 + 6x + 5$  as the product of two binomials. What is this method called?

ANSWER: factoring [or factorization]

[5,5] Use either method, or the quadratic formula, to solve the equation  $x^2 + 6x + 5 = 0$ . You will get five points for each correct root.

ANSWER:  $x = -1$  and  $x = -5$

19. The gangster Meyer Wolfsheim ("WOLF-shime") fixes the 1919 World Series in this novel. For 10 points each:

[10] Identify this novel, which is partially set in West Egg and is narrated by Nick Caraway.

ANSWER: *The Great Gatsby*

[10] This author, dubbed the "Prophet of the Jazz Age," wrote *Tender is the Night* in addition to *The Great Gatsby*.

ANSWER: F(rancis) Scott (Key) Fitzgerald

[10] This wife of F. Scott Fitzgerald was diagnosed with schizophrenia and is the inspiration for Nicole Diver in his novel *Tender is the Night*.

ANSWER: Zelda Sayre Fitzgerald [accept either underlined name; prompt on "Fitzgerald"]

20. In this work, the title characters are represented by the string section and French horns, respectively. For 10 points each:

[10] Name this piece of music that ends with a victory parade in which a young pioneer brings a savage animal to the zoo.

ANSWER: *Peter and the Wolf*

[10] *Peter and the Wolf* is a composition by this Russian composer who also wrote the opera *The Love for Three Oranges*.

ANSWER: Sergei Sergeyevich Prokofiev

[10] In *Peter and the Wolf*, this double reed instrument, to which the orchestra tunes because it so difficult to keep this instrument in tune, represents the duck.

ANSWER: oboe

Extra. For 10 points each, name these members of the 13 original colonies:

[10] This colony was home to the first representative assembly in the colonies, the House of Burgesses, which met in Williamsburg after 1699.

ANSWER: Virginia

[10] This colony was founded by Roger Williams, who fled religious persecution in the Massachusetts Bay Colony, and upon the accession of Charles II merged with a colony founded by followers of Anne Hutchinson.

ANSWER: Rhode Island and Providence Plantations [accept either or both]

[10] This last of the original thirteen colonies to be founded was named after the king that granted James Oglethorpe a charter to found a colony to check Spanish expansion north from Florida.

ANSWER: Georgia