

# 2012 Collaborative Middle School Tournament

## Round 5

### Tossups

1. Wang Mang briefly replaced this dynasty with his Xin (SHIN) dynasty, separating this dynasty into “Western” and “Eastern” periods. It was founded by Liu Bang and succeeded the Qin (CHIN) dynasty. During this dynasty, Confucianism became prominent and the first census was taken. For 10 points, identify this dynasty once ruled by Wudi (WOO-DEE), which shares a name with the primary ethnic group of China.

ANSWER: Han Dynasty

2. Adrian Smith designed the world’s largest structure of this type, which is currently located in the United Arab Emirates. Modern ones often use the tube frame design, which superseded the steel frame of earlier structures. Louis Sullivan is known as the father of these structures. For 10 points, name this kind of large building, examples of which include the Burj Khalifa and the Empire State Building.

ANSWER: skyscraper [prompt on building; prompt on tower]

3. A Sanskrit group of these writings is found in the *Panchatantra* (PAHN-chah-THAN-trah). Marianne Moore translated a collection of these writings by Jean de la Fontaine. The Perry Index catalogs ones written by a Greek slave; those include stories about the “Tortoise and the Hare” and “Fox and the Grapes Out of Reach.” For 10 points, name these stories that often contain animals and a moral lesson, many of which were written by Aesop.

ANSWER: fables [prompt on tales or stories or similar answers before “stories” is read]

4. The last wild herd of bison in the United States was located in this park, where today they are hunted by grizzly bears and wolves reintroduced in the 1990s. This site that became America's first national park in 1872 is located north of the Grand Teton Range. Geothermal features like the Old Faithful geyser are found in, for 10 points, what national park of northwestern Wyoming?

ANSWER: Yellowstone National Park

5. The muon was detected in a device named for these objects; that device was succeeded by the bubble chamber. Adding silver iodide to these structures attempts to release their contents in a namesake “seeding” technique. These structures are formed when the temperature falls below the dew point, causing condensation of water. For 10 points, cumulus, stratus, and cirrus are all types of what water formations in the sky?

ANSWER: clouds [accept cloud chamber before “release” is read]

6. This university's women's soccer team has won 21 national championships, more than any other school in that sport. Its men's basketball team has featured players such as Ty Lawson and Tyler Hansbrough, behind whom it won the 2009 NCAA Championship. It is currently coached by Roy Williams. For 10 points, name this university located in Chapel Hill and rival of Duke whose mascot is the Tar Heels.

ANSWER: University of North Carolina – Chapel Hill [or UNC]

7. Every chapter after the first chapter of this work is arranged from longest to shortest and all but one begins with the word “bismallah” (biss-MAH-lah). This work’s second chapter is known as the “Cow” sura and the first revelation in this text was transmitted when Muhammad was near the Cave of Hira (HEE-rah). For 10 points, identify this text that is taken to be the word of Allah by Muslims.

ANSWER: Qur’an [or Koran; prompt on recitation]

The 2012 Collaborative Middle School Tournament was written and edited by Joe Brosch, Kristin I. Burns, Michael Falk, Brad Fischer, Matt Hayes, Kathy Hempel, Jeff Hoppes, Mike Laudermith, Charles Martin Jr., Jacob O’Rourke, Mike Perovanovic, Jeffrey Price, David Reinstein, Donald Taylor, Tristan Willey, Mike Wong, Dwight Wynne, Ben Zhang, and possibly some other people.

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8. This element combines with nitrogen to form cyanides, and it combines with iron to make steel. Sixty atoms of this make a molecule of buckminsterfullerene (BUCK-min-ster-FULL-er-een), and another allotrope, mistakenly referred to as lead and used in pencils, is graphite. It exists in all organic molecules. A molecule made of this element and two oxygen atoms is used by plants in photosynthesis. For 10 points, name this element whose atomic symbol is C.

ANSWER: carbon [accept C until mentioned]

9. As president, this man shut down the Second Bank of the United States. This president had a group of friends and advisers called the “kitchen cabinet.” This victor at the Battle of New Orleans forced the removal of the Cherokee from their land by signing the Indian Removal Act. For 10 points, name this man nicknamed “Old Hickory,” the seventh president.

ANSWER: Andrew Jackson [prompt on Old Hickory before mentioned]

10. One of this author’s characters kills his rival Spitz while working for Francois (frah-n-SWAH) and Perrault (pair-OHL). Another of his characters is taken to Santa Clara, California, where he saves Judge Scott from a murderer. The central figure of one of his novels avenges the killing of his master Thornton before going on to lead a wolf pack; that figure is the Buck from *The Call of the Wild*. For 10 points, name this author of *White Fang*.

ANSWER: Jack London

11. Two vectors have this property if their cross product is equal to the zero vector, and non-Euclidean geometries are derived by modifying this property. Euclid’s fifth postulate states that for a straight line and a point not on the line, exactly one line running through the point has this property with respect to the original line. For 10 points, what term is given to two lines that do not intersect at any point?

ANSWER: parallel

12. This is the major key in which both Sergei Prokofiev’s “Classical” Symphony and J.S. Bach’s *Air on a G String* were written. A basic guitar chord of this type does not play the fifth and sixth strings and leaves open the fourth string as the root of the chord. Johann Pachelbel (PAHK-uh-BELL) wrote a canon in this key whose relative minor is B minor. For 10 points, name this major key whose key signature has two sharps.

ANSWER: D major

13. This planet’s equator is home to an elevated region known as the Tharsis Bulge, which is located near the Valles Marineris (VALL-us mare-in-AIR-us). It was visited by the Viking probes and is home to the highest mountain in the Solar System, the extinct volcano Olympus Mons. This planet is orbited by two small moons named Deimos and Phobos. For 10 points, a network of naturally occurring “canals” is on what planet between Earth and Jupiter?

ANSWER: Mars

14. In this book, Admiral Drake sends the title character a surprise, and Greta and Captain Cook have ten children who are soon trained to be a traveling circus act. This book by Richard Atwater geographically incorrectly sends a group of animals to the North Pole. For 10 points, name this novel about a man with a bunch of flightless, aquatic birds.

ANSWER: Mr. Popper’s Penguins

15. Homer claimed that this place never has storms and is bound in aether. One goddess associated with this location is Hebe, who serves its residents nectar and ambrosia. Bellerophon (bell-AIR-oh-fahn) tried to fly to this location after slaying the Chimera, but Zeus sent a gadfly to sting Pegasus and Bellerophon fell off. For 10 points, identify this location in Greek myth, the home of Poseidon, Hera, and Zeus.

ANSWER: Mount Olympus

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16. This man, along with Edwin Catmull, was credited as an executive producer of the original *Toy Story* movie, produced by Pixar Animation, which he renamed after purchasing it from George Lucas in 1986. From 2000 to 2011, he served as CEO of the computer company he co-founded with Steve Wozniak. For 10 points, identify this co-founder of Apple Computers who died in October 2011 from complications due to pancreatic cancer.

ANSWER: Steve Jobs

17. Gamma-tubulin (TOO-byoo-lin) is needed to activate centrosomes in this phase, which follows the G2 checkpoint. One of these phases in meiosis includes synapsis (sin-APP-sis) and the crossing over of homologous chromosomes. Asters form during this phase that sees the disappearance of the nucleolus (noo-klee-OH-luss) and the growth of spindle fibers. For 10 points, name this phase of mitosis in which chromatin condenses into chromosomes prior to metaphase.

ANSWER: prophase [accept prophase I; prompt on meiosis until read; prompt on mitosis until “meiosis” is read but do not accept or prompt on it afterwards]

18. He sent his armies to quash an uprising that was sparked by the Papist Act of 1778; these uprisings were known as the Gordon Riots. He succeeded his grandfather as king during the Seven Years’ War, and although he won that war, the resulting debt led Parliament to pass the Stamp Act of 1765. For 10 points, name this “mad” king of Great Britain who lost the American colonies in the Revolutionary War.

ANSWER: George III [prompt on George]

19. In 2012 an unknown disk-shaped object was found on the floor of this sea. Arms of this sea include the Gulf of Riga and Gulf of Bothnia. The Kiel (KEEL) Canal bypasses Kattegat (KAH-teh-gaht) Bay and Skagerrak (SKAH-geh-rahk) Strait to connect this sea to the North Sea. Germany and Poland are on its southern shore. For 10 points, name this sea bordered by Estonia, Latvia, and Lithuania, its namesake “States,” as well as Finland and Sweden.

ANSWER: Baltic Sea

20. One of this man’s short stories talks about how the reverend Mr. Hooper refuses to remove the titular cloth from his face. In addition to *The Minister’s Black Veil*, he wrote a novel that tells of Arthur Dimmsdale’s affair with Hester Prynne, which results in his being branded with an “A.” For 10 points, name this American author of the *House of the Seven Gables* and *The Scarlet Letter*.

ANSWER: Nathaniel Hawthorne

Extra. The Panspermia theory holds that life first developed on these objects. These objects contain a coma surrounding a nucleus. They originate in the Oort Cloud and Kuiper (KYE-per) Belt, and their dust tails point away from the Sun. They include Shoemaker-Levy 9, which crashed into Jupiter. For 10 points, name these “dirty snowballs,” one of which passes by Earth every 76 years and was discovered by Edmond Halley.

ANSWER: comets

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### Bonuses

1. This collection includes the Beatitudes and ends with a contrast between a house built on rock and a house built on sand. For 10 points each:

[10] What collection of sayings fills chapters five, six, and seven in the Book of Matthew?

ANSWER: **Sermon on the Mount** [do not accept “Sermon on the Plain”]

[10] The Sermon on the Mount contains this set of seven petitions that asks to “give us this day our daily bread” and “lead us not into temptation.”

ANSWER: **Lord’s Prayer** [accept **Our Father**; accept **Pater Noster**; accept **Oratio Dominica**]

[10] Immediately after delivering the Sermon on the Mount in the Book of Matthew, Jesus cures a man with this disease.

ANSWER: **leprosy** [accept **leper**]

2. The most recent installment of this series features Demon Lord Ghirahim’s (GHEE-rah-heem’s) attempts to capture the title character and was subtitled *Skyward Sword*. For 10 points each:

[10] Name this video game series, in which Link often attempts to rescue the title Princess of Hyrule, and which includes installments such as *Ocarina of Time* and *Twilight Princess*.

ANSWER: *The* **Legend of Zelda** [prompt on **Zelda**]

[10] The chief villain in many games is this red-haired Gerudo sorcerer, who often attempts to steal the Triforce.

ANSWER: **Ganondorf** Dragmire

[10] In many recent games, Link fights these blob-like monsters, which, unlike zols and gels, leave behind a namesake jelly that can be used to restore health.

ANSWER: Chu**Chus**

3. It is used to separate items in a list when a comma is used within the list for other reasons. For 10 points each:

[10] Name this punctuation mark that looks like a period over a comma.

ANSWER: **semicolon**

[10] A semicolon is used in a sentence to separate two closely related clauses of this type, each of which could form its own sentence.

ANSWER: **independent** clauses

[10] Though commas can be followed by conjunctions, semicolons should instead be followed by the conjunctive type of this part of speech.

ANSWER: **adverb**

4. Pieter Brueghel created a painting of this type “with the Fall of Icarus,” and the Barbizon School created many works of this type. For 10 points each:

[10] Name this type of painting that often depicts a panoramic view of fields, mountains, valleys, rivers, and other natural scenery.

ANSWER: **landscape** painting

[10] This group of landscape painters was founded by Thomas Cole and drew inspiration from the Catskill and Adirondack Mountains near its namesake waterway.

ANSWER: **Hudson River** School

[10] The painters from the Hudson River School painted primarily in this state, which is home to the Albany Institute of History and Art.

ANSWER: **New York**

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5. An “International” version of this structure is expected to remain in orbit until at least 2020. For 10 points each:

[10] Name these artificial satellites in low Earth orbit, on which astronaut crews live for months at a time.

ANSWER: space stations

[10] Valeri Polyakov spent over one year in this Soviet, then Russian, space station, which de-orbited in 2001.

ANSWER: Mir

[10] This first American space station broke up over Australia in 1979.

ANSWER: Skylab

6. For 10 points each, name these Latin American nations that were the site of twentieth-century violence.

[10] Pancho Villa raided across the border into the U.S. from this nation, whose revolution began with the downfall of Porfirio (por-FEE-ree-oh) Diaz.

ANSWER: Mexico

[10] Pablo Escobar's drug cartel was based in this South American country. Its major armed rebel group is FARC, whose leader Alfonso Cano was killed in November 2011.

ANSWER: Colombia

[10] A CIA-backed 1973 coup in this nation led to the suicide of president Salvador Allende in Santiago's La Moneda Palace.

ANSWER: Chile

7. For 10 points each, name these African landforms.

[10] This semi-arid African desert is found in the countries of Botswana, South Africa, and Namibia.

ANSWER: Kalahari (kah-lah-HAH-ree) Desert

[10] This is the largest desert in Africa, spanning most of Northern Africa.

ANSWER: Sahara Desert

[10] This continuous geographic trench is a rich source of anthropological finds. The deepest part of this trench can be found in Kenya's capital city of Nairobi.

ANSWER: Great Rift Valley

8. Its central character is a teacher who moves from Connecticut to Tarry Town. For 10 points each:

[10] Name this story in which Brom Bones wishes to marry Katrina Van Tassel. It also features the Headless Horseman.

ANSWER: “The Legend of Sleepy Hollow”

[10] “The Legend of Sleepy Hollow” and “Rip Van Winkle” were placed in this author's *The Sketch Book of Geoffrey Crayon*.

ANSWER: Washington Irving

[10] This is the teacher who is scared out of town by the Headless Horseman.

ANSWER: Ichabod Crane [accept either part]

9. This is a computation bonus. For 10 points each, give the result of these simplifications.

[10] Simplify the expression given by: the quantity  $6x+7y$  end quantity minus the quantity  $4x-y$  end quantity.

ANSWER:  $2x+8y$

[10] Simplify the square root of seventy-five.

ANSWER: 5 times the square root of 3 [accept equivalents such as 5 radical 3]

[10] Simplify four divided by the square root of two. Your answer should not be a fraction.

ANSWER: 2 times the square root of 2 [accept equivalents such as 2 radical 2]

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10. There are 21 of these groups in the House, 20 in the Senate, and 4 joint ones. For 10 points each:  
[10] Identify these groups that handle specific duties of Congress, like Appropriations and Foreign Affairs.

ANSWER: committees

[10] This committee exists in the House, but not the Senate, because of the Constitutional requirement that all tax bills start in the House. Its closest counterpart in the Senate is the Committee on Finance.

ANSWER: House Committee on Ways and Means

[10] The Committee on Ways and Means originates bills for this type of tax on imports and exports.

ANSWER: tariffs

11. This composer invented the ballade form and dedicated the “Revolutionary Etude” to Franz Liszt. For 10 points each:

[10] Name this Polish piano virtuoso, whose second piano sonata includes a third movement funeral march.

ANSWER: Frederic Chopin

[10] Chopin wrote a "Minute" (mye-NOOT) one of these dances in 3/4 time. Johann Strauss the Younger was known as the “King” of these dances.

ANSWER: waltz

[10] In addition to his 27 etudes, Chopin also composed 27 works in this form, including “Raindrop” and the unfinished “Devil's Trill.”

ANSWER: prelude

12. For 10 points each, answer the following about the April 2011 Royal Wedding.

[10] Prince William married this woman, a 29-year-old commoner from Berkshire, England.

ANSWER: Catherine “Kate” Middleton

[10] Prince William is 2nd in line to the throne of England behind his father, Prince Charles, who holds this title as crown prince of England.

ANSWER: Prince of Wales

[10] With their marriage, William and Kate were conferred the titles of Duke and Duchess of this English university town, 50 miles north of London.

ANSWER: Cambridge

13. It is used to raise a number to a power. For 10 points each:

[10] Give this operation represented by a superscript.

ANSWER: exponentiation

[10] Using this value as an exponent has the same impact as taking the reciprocal of a number.

ANSWER: -1

[10] This operation is the inverse of exponentiation, giving the exponent as its output. It was popularized by John Napier.

ANSWER: logarithm

14. A 1971 novel by John Gardner is written from the point-of-view of this creature. For 10 points each:

[10] Name this descendant of Cain who terrorizes the hall of Heorot (HAY-oh-raht), Hrothgar’s (ROTH-gahr’s) palace, in an Anglo-Saxon epic poem.

ANSWER: Grendel

[10] This title hero of the epic poem kills Grendel and Grendel’s mother.

ANSWER: Beowulf

[10] Much later, Beowulf is mortally wounded while killing one of these fire-breathing creatures.

ANSWER: dragons

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15. For 10 points each, name these American generals from World War II.

[10] The supreme Allied commander of the D-Day invasion was this man nicknamed "Ike," who served as a Republican president for most of the 1950s.

ANSWER: Dwight (David) **Eisenhower**

[10] The breakout of American armored forces from Normandy was led by this commander of the Third Army, who had been criticized for slapping soldiers in a Sicilian hospital.

ANSWER: George (Smith) **Patton** (Jr.)

[10] The U.S. Army's chief of staff during the war was this man, who served as Harry Truman's Secretary of State and earned a Nobel Peace Prize for his "European Recovery" plan to repair the war's damage.

ANSWER: George (Catlett) **Marshall** [accept **Marshall** Plan]

16. It can be measured in Pascals or millibars. For 10 points each:

[10] Name this quantity, which can also be measured in pounds per square inch, and which represents a force per area.

ANSWER: **pressure**

[10] In this theoretical kind of gas with no intermolecular forces or molecular volume, pressure varies directly with temperature and inversely with volume.

ANSWER: **ideal** gas

[10] In the law named after this scientist whose namesake number is the number of particles in one mole, volume varies directly with the number of gas molecules.

ANSWER: Amedeo **Avogadro**

17. This god is responsible for the death of Baldur. For 10 points each:

[10] Name this Norse trickster god that slept with the giantess Angrboda (AHN-grr-BOH-dah) to father three monstrous children, including Hel.

ANSWER: **Loki**

[10] Baldur was killed when his brother Hodr (HOE-drr) threw a sprig of this plant at him. It was the only material that had not promised not to hurt Baldur.

ANSWER: **mistletoe**

[10] Baldur and Hodr are both sons of this one-eyed chief god of the Norse pantheon.

ANSWER: **Odin**

18. For 10 points each, answer these questions about *The Chronicles of Narnia*.

[10] What Oxford Scholar and author of popular religious works such as *Mere Christianity* and *The Screwtape Letters* created Narnia?

ANSWER: C(live) S(taples) **Lewis**

[10] Peter, Susan, Edmund and Lucy travel to Narnia via what object?

ANSWER: the **wardrobe** in the Professor's house

[10] Whom do the children defeat to save Narnia from a century of winter?

ANSWER: the **White Witch** [prompt on **witch**]

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19. Niccolò Machiavelli (MAH-kee-ah-VELL-ee) was a thinker from this period. For 10 points each:  
[10] Name this cultural movement that started in 14th century Italy. Its name comes from the Latin for "rebirth."

ANSWER: **Renaissance**

[10] The Renaissance began in this Tuscan city. Its rulers during the Renaissance included Girolamo Savonarola and the Medici family.

ANSWER: **Florence** [or **Firenze**]

[10] Renaissance holders of this position included the controversial Alexander VI and the Medici Leo X. This bishop of Rome is the leader of the Catholic Church.

ANSWER: the **Pope** [or **Vicar of Jesus Christ**; or **Successor of the Prince of the Apostles**; or Supreme **Pontiff** of the Universal Church; or **Primate of Italy**; or **Archbishop and Metropolitan of the Roman Province**; or **Sovereign** of the State of **Vatican City**; or **Servant of the Servants of God**; or **Pontifex Maximus**; or **Patriarch of the West**; prompt on **His Holiness**]

20. Carbon dioxide is used to build this sugar in the dark reactions of photosynthesis. For 10 points each:  
[10] Name this simple sugar with formula  $C_6H_{12}O_6$  that is combined with fructose to make sucrose.

ANSWER: **glucose**

[10] When glucose sugars are linked together in long chains, they can form starch and this tough complex sugar found in paper, wood, and plant cell walls.

ANSWER: **cellulose**

[10] One of the most important consumers of cellulose are these insects that cause billions of dollars in damages annually to wood houses. Like ants, they live in colonies surrounding a queen.

ANSWER: **termites**

Extra. In January 2012, a cruise ship disaster occurred in the Tyrrhenian (teer-EE-nee-uhn) Sea. For 10 points each;

[10] Give the name of this cruise ship that ran aground in shallow waters, causing the craft to partially sink and list to its side.

ANSWER: Costa **Concordia**

[10] The Costa Concordia ran aground just off of Giglio (JEE-lee-oh) Island, which is just 11 miles off the Tuscan coast of this European nation.

ANSWER: **Italy**

[10] Investigators have blamed the accident on Francesco Schettino (SKET-tee-noh), who held this title on the Costa Concordia. Italian authorities charged him with crimes relating to his dereliction of duties.

ANSWER: **captain**