

## Round 2

### Middle Grades – 2014-15 Governor's Cup Practice Questions

1. A 16-ounce soda costs \$1.44. What is the cost per ounce for the soda?  
  
9 CENTS
2. A chili pepper is technically this in the eyes of a botanist, even if it doesn't taste sweet. While cooks may call squash or cucumbers vegetables, they are botanically defined as this. What do we call the ripened ovary of a flowering plant, containing one or more seeds?  
  
FRUIT
3. A full-size replica of this landmark can be found in Centennial Park in Nashville. The original was designed by Phidias [FID-ee-us], and was completed in 432 B.C. Identify the temple of the Greek goddess Athena that sits on the hill of the Acropolis.  
  
PARTHENON [PAHR-thuh-nuhn]
4. First and last name answer required. This character's friends include Hurry Harry March, Uncas, and Chingachgook [CHIN-gutch-gook]. Nicknamed "Hawkeye," "Deerslayer," and "Pathfinder," he appears in five novels that span his life from youth to death. Who is this protagonist of James Fenimore Cooper's Leatherstocking Tales?  
  
NATTY BUMPO
5. When a dancer is unaccompanied, he can use his heartbeat to keep track of this element of dance. With musical accompaniment, he can use the music's rhythm and tempo. Name this element of dance that has to do with how fast or slow a movement is performed.  
  
TIME
6. A radio DJ has 5 songs to choose from, but he only has time to play 3 of them. In how many ways could the DJ arrange the next 3 songs from his 5 choices?  
  
60
7. According to medicalnewstoday.com, if a person's bodyweight is at least 20% higher than it should be, he or she is considered this. A person with a Body Mass Index over 30 falls into this category. What 5-letter word can mean overweight, to a point where it can negatively affect one's health?  
  
OBESE
8. Although it is in the Sistine Chapel, this Michelangelo work was created twenty-five years after he painted the chapel's ceiling. Unlike most works on this subject, he depicts Christ as an avenging judge, determining the fate of all humanity. Name this fresco in which the saved souls ascend on the left, while the condemned souls descend on the right.  
  
LAST JUDGMENT

9. An area occupied by this ancient culture is administered by Casa Grande Ruins National Monument, but is not open to the public. The culture takes its name from a Pima word that means "those who are gone," and is divided into the Pioneer, Colonial, Sedentary, and Classic periods. Name this culture that flourished from 200 to perhaps 1450 along the Gila and Salt rivers in Arizona.

HOHOKAM [huh-HOH-kum]

10. In *A Season of Gifts*, this author continues the story of beloved, eccentric Grandma Dowdel. His previous novels detail Grandma's outrageous adventures as she helps Joey and Mary Alice shake up a small Illinois town. Who wrote *A Long Way from Chicago* and *A Year Down Yonder*?

(RICHARD) PECK

11. Acronym required. This device was first created in 1960, by Theodore Maiman [MAY-mun], but could only operate in pulses. It is commonly used in playback features of CDs and DVDs. Name this device, which is the acronym for "light amplification by stimulated emission of radiation."

LASER

12. Add the following two polynomials and state your answer in descending order:  $3x^3 + 2x^2 - 5x + 3$ , added to,  $4x^3 - 7x^2 + 3x - 8$ .

$7x^3 - 5x^2 - 2x - 5$

13. Believing that anything could be worthy of being painted, this artist chose his subjects from grocery store shelves and movie posters. He began mass-producing his works, and printing variations of portraits of famous people in garish colors. Name the Pop artist known for his depictions of Marilyn Monroe and Campbell's soup cans.

(ANDY) WARHOL

14. Forces under this general Fort Henry and Fort Donelson in western Tennessee in 1862. Because of his successes, President Lincoln appointed him commander of all Union armies in 1864. Name the Union general who defeated Robert E. Lee, and later was twice elected president.

(ULYSSES S.) GRANT

15. Individual stories in this collection include "Christopher Robin Leads an Expedition to the North Pole" and "Piglet Meets a Heffalump." The title bear lives in the Hundred Acre Wood, where he eats honey and has adventures with friends Eeyore, Tigger, and Kanga. What is this prequel to *House at Pooh Corner* by A. A. Milne?

WINNIE-THE-POOH

16. An example of this property would be the potential for gasoline to burn. Other examples includes oxidation reactions, reduction reactions, and double replacement reactions. Identify the kind of property measured by the potential of an element or compound to undergo a reaction.

CHEMICAL (PROPERTY)

17. Angle ABC is bisected by ray BD. If the measure of angle ABD is equal to  $3x$  minus 5 degrees and the measure of angle DBC is equal to  $5x$  minus 13 degrees, what is the measure of angle ABC, in degrees?

14 (DEGREES)

18. Commonly seen in Neoclassical architecture, this type of column is used in the Jefferson Memorial in Washington, D.C. Its base is comprised of several stacked round disks. Which type of column features volutes [vuh-LOOTS], or scroll-shaped ornaments, on its capital?

IONIC (Accept: IONIAN)

19. Her second novel, *Touch Blue*, profiles a Maine island whose only school is in danger of closing. She based David, the autistic hero of her Newbery Honor Book, on her own son, Gregory. Identify the author of *Rules*.

(CYNTHIA) LORD

20. In 1691, this colony was absorbed into a nearby colony that had been established in 1630. The leaders were religious Separatists who had earlier fled England for Holland, then arrived in the Americas in 1620. What colony's first settlers arrived on the Mayflower?

PLYMOUTH (COLONY)

21. An immature, wingless, feeding stage of an insect is the definition for this word. It is a stage of life for insects, coming before the pupa stage. Identify the stage of an insect's life before it goes through metamorphosis.

LARVA

22. At age thirty-five, this man became the first American-born conductor and musical director of the New York Philharmonic. He is the subject of a YALSA Finalist biography by Susan Goldman Rubin. Which conductor and composer's story is told in *Music Was It*?

(LEONARD) BERNSTEIN

23. In 1821, he became the first attorney to file what is called a "friend of the court" brief before the U.S. Supreme Court. He promoted what he called the American System, and he failed to win the presidency in 1824, 1832, and 1844. Name this Kentucky senator known as the "Great Compromiser."

(HENRY) CLAY

24. Multiple answer required.  $3x^2$  minus  $5x$  plus 4 equals 0?

NEGATIVE 23

25. The name for this period may come from a Portuguese word meaning misshapen pearl, a negative description of the heavily ornamented art and music of this era. Probably the best known composers from this period are Johann Sebastian Bach and Frederic Handel. What era of music lasted from about 1600 to 1750, and was followed by the Classical period?

BAROQUE (PERIOD OR ERA)

26. Animals falling into this behavior pattern include hedgehogs, possums, bats, and owls. They often possess heightened senses, including eyes that compensate for low light levels. What word refers to animals that are primarily active at night?

NOCTURNAL(ITY)

27. Eugene Loring was the choreographer for this work based on a 1925 biography written by Walter Noble Burns. Numbers in the ballet include "The Open Prairie," "Card Game at Night," and "Gun Battle." Identify this ballet by Aaron Copland [COPE-lund] about an Old West outlaw.

BILLY THE KID

28. In one work, this poet equates being "Somebody" with telling "one's name - the livelong June - / To an admiring Bog!" Another of her poems describes an eerie carriage ride past "the School, where Children strove / At Recess - in the Ring..." Name the reclusive "Belle of Amherst" who wrote "I'm Nobody! Who are you?" and "Because I could not stop for Death."

(EMILY) DICKINSON

29. Lenin wrote that this form of economic system corresponds to Marx's second stage of socialism. It has largely been identified with the Soviet Union and the People's Republic of China. Name the system in which all means of production are controlled by the government.

COMMUNISM (Accept word forms)

30. Multiple answer required. Give the next two terms of the pattern: pentagon, hexagon, heptagon, octagon, and so on.

NONAGON, DECAGON

31. As a verb, this can mean to grow organisms in a specially prepared medium. As a noun, it is the fruited growth of those organisms. What is the name of the colony of microorganisms grown, commonly in a petri dish, in a medium such as agar?

CULTURE

32. Early versions of this brass instrument had no valves, and relied solely on harmonics to change its pitch. In the modern orchestra, it is the brass instrument with the highest range. What instrument was played by jazz greats Dizzy Gillespie and Louis Armstrong?

TRUMPET

33. First and last name answer required. This man delivered his speech "The Leader & the Cause" after being shot in the chest. Another speech offered Americans a "square deal," while a third alluded to a character from Pilgrim's Progress, the Man with the Muck Rake. Name this American president nicknamed the "Bull Moose."

THEODORE (OR TEDDY) ROOSEVELT

34. Multiple answer required. If you know that a number is divisible by 6, then what two other positive prime numbers must the number be divisible by?

2, 3

35. Multiple answer required. These two nations were involved in an on-again, off-again struggle in the fourteenth and fifteenth centuries, over the question of who should rule one of them. That part of their struggle for leadership in Europe ended when Charles the Seventh conquered Normandy and Aquitaine [AK-wih-tane]. What two nations fought the Hundred Years' War?

ENGLAND, FRANCE (Either order) (Accept: BRITAIN or other equivalents)

36. Carl Sagan hosted the documentary titled "Cosmos" in 1980, while this astrophysicist hosted an updated version in 2014. As director of the Hayden Planetarium, he led the scientific community in classifying Pluto as a dwarf planet. Name this influential figure in the realm of science, who appeared alongside Bill Nye on an episode of "The Big Bang Theory."

(NEIL DEGRASSE) TYSON

37. Developed in the Roman Catholic Church around A.D. 600, this style of music is sung without instrumental accompaniment by the choir, and accompanies the text of the mass. It is led by a cantor who sings the opening words of a phrase, which is then finished by the whole choir. What style of music was named for the man who was pope from 590 to 604?

GREGORIAN CHANT

38. In "The Hitch-Hiker," this author describes a pickpocket who steals a policeman's diary after bumming a ride with the narrator. Another story implies that the title character will kill and stuff Billy Weaver, a young man who rents a room at her bed and breakfast. Identify this author of "The Landlady," as well as Charlie and the Chocolate Factory.

(ROALD) DAHL [ROO-all DOLL]

39. One prism has a volume of 50 cubic units. If a second prism has dimensions that are twice the first prism, what is the volume of the second prism?

400 (CUBIC UNITS)

40. The completion of this project did much to make New York a major commercial center of the United States. It was begun under the leadership of Governor DeWitt Clinton of New York. What engineering project required eighty-three locks to span the distance from Buffalo, New York, to the upper Hudson River?

ERIE CANAL

**End of First Half – Begin Three-Minute Inquiry Period**

## Round 2 - Second Half

### Middle Grades – 2014-15 Governor's Cup Practice Questions

1. Despite its name, this geological category is determined by temperature, and may not even contain water. It must continuously experience a temperature colder than zero degrees Celsius for two or more years. Give the term for perennially frozen ground often found in the tundra.

PERMAFROST

2. During her time with the New York City Ballet, this choreographer created Fall River Legend, which she based on the story of Lizzie Borden. In 1942, her choreography for Rodeo became the first to integrate tap-dancing and classical ballet. Name this American choreographer, who created the dances for musicals like Brigadoon and Oklahoma!

(AGNES) DEMILLE

3. In ancient mythology, this bird had a melodious voice and gold and red plumage. Only one existed at any given time, and it lived at least five hundred years. What kind of bird burned itself on a funeral pyre, only to see a new bird rise from the ashes?

PHOENIX

4. Solve the equation: X plus 2 times the quantity, X minus 4, close quantity, equals 43.

(X EQUALS) 17

5. The name by which many people know him means the "awakened one." In his first sermon after his enlightenment, he set forth the Four Noble Truths. Name the found of a major philosophical system that includes such varieties as Mahayana [mah-huh-YAH-nuh] and Zen.

BUDDHA (Accept: GAUTAMA SIDDHARTHA [either or both])

6. According to tradition, this saint was a bishop who lived in third-century Rome. He secretly married couples in defiance of the emperor's edict, and was put to death for his crime. What saint's feast day is celebrated on February 14?

(SAINT) VALENTINE (Not: VALENTINE'S DAY)

7. Correct the grammatical error, if one exists, in the following sentence: If you aren't feeling well, go lay down on the couch.

CHANGE "LAY" TO "LIE" (Accept equivalent answers)

8. Full name answer, please. This astronomical chart organizes stars by spectral class and absolute magnitude. The main sequence stars form a diagonal line from top left to bottom right, with giants in the upper right and dwarves in the bottom left corners. What is this diagram named for the Danish and American astronomers who independently created it?

HERTZSPRUNG-RUSSELL (DIAGRAM)

9. Solve the inequality: 4 minus X is greater than 12

X IS LESS THAN -8

10. The name of this river comes from a Miami word that means "water over white stones." It was part of the longest canal system in the U.S., linking Evansville, Indiana, with Lake Erie. What river that flows through Indiana shares its name with that of a fictional train?

WABASH (RIVER)

11. An example of this sentence structure is, "Until she graduates, she will live with her parents, but then she wants to move." Give the term for a sentence that contains at least two independent and at least one dependent clause.

COMPOUND-COMPLEX (SENTENCE)

12. Generic scientific term required. The science that studies these objects is divided into internal, external, intermediate, and terminal. The objects are affected by gravity and wind, and they are kept in motion by their own inertia. What is the scientific term for any objects that are propelled through the air by a force, such as the gunpowder in a bullet?

PROJECTILES

13. His parents threw him out of Olympus because he was born lame. Apollo brought him back to Olympus, and he eventually became the consort of Aphrodite. Identify the Greek god of fire, volcanoes, and blacksmithing.

HEPHAESTUS [hih-FES-tus]

14. State your answer as a mixed fraction. The shortest of the triple crown races, the Preakness Stakes, is 9 and a half furlongs in length. If one furlong is one-eighth of a mile, then how long, in miles, is the Preakness Stakes?

1 3/16 (MILES)

15. This amendment, according to some, reflects the ancient Roman belief that every citizen was a soldier. It restricts the federal government's power to regulate state militias. Identify the amendment that protects an individual's right to carry and use arms for self-defense.

(Accept: SECOND (AMENDMENT)) (Accept: (AMENDMENT) TWO)

16. Created by Lynn Ahrens and Stephen Flaherty, this Broadway musical is a fusion of many beloved children's stories. It pulls characters and plots from books such as Miss Gertrude McFuzz and Horton Hears a Who!, and is narrated by the Cat in the Hat. Identify this Broadway show that brings to life the fantastical world of Dr. Seuss.

SEUSSICAL (THE MUSICAL)

17. Give the superlative form of the adverb in the following sentence: Cats can see well in the dark.

BEST

18. In botany, this word refers to the long, straight, soft hairs that cover certain plants' flowers and fruit. More commonly, it names wormlike projections found in a human's digestive tract. What feature of the small intestine's mucous membrane aids in nutrient absorption?

VILLI [VIL-ahy]

19. The following are test scores for a pretest in math class: 40, 80, 60, 70, and 50. What is the mean of these scores?

60

20. This country elected Enrique Peña Nieto [ehn-REE-kay PAYN-yah nee-EH-toh] as its president in 2012. The country was hit by a hurricane from the Pacific, and a tropical storm from the Gulf, at the same time in 2013. What country saw thousands of tourists stranded, including those at Acapulco [ak-uh-POOL-koh]?

MEXICO

21. Although this website was originally created for students at Harvard, it now has over a billion users. Its development and rise in popularity was depicted in the film The Social Network. Identify this website created by Mark Zuckerberg and his college roommates.

FACEBOOK (DOT COM)

22. As a verb, this word can mean "to think or meditate in silence, as on some subject." As a noun, it can refer to a person who inspires a creative artist. What word, in Greek mythology, refers to any of nine sister goddesses who ruled the arts?

MUSE

23. In meteorology, this phenomenon is the counterpart of praecipitatio [pree-sip-i-TEY-shee-oh]. What term names the streaks of ice particles and water drops that fall from a cloud, but evaporate before reaching the ground?

VIRGA

24. The perimeter of a hexagon is 120 units. If the average length of 5 sides of the hexagon is 22 units, what is the length of the sixth side?

10 (UNITS)

25. This legend normally found on a map helps people understand what the map shows. What type of legend might be used to show the symbols for a state capital, a large city, or a hospital?

(MAP) KEY

26. In English, this Greek root translates as "light." Give this root often appearing before synthesis and graph.

PHOTO



27. In Punnett squares, this type of allele is represented by a capital letter. Examples include detached earlobes, curly hair, and brown eyes. What kind of genetic trait is guaranteed to appear in an organism's phenotype?

DOMINANT

28. This artist of the Italian Renaissance, a favorite of Lorenzo de Medici, was almost lost to history until he was rediscovered in the nineteenth century. His most famous paintings illustrate stories from classical mythology with the linear grace typical of the Florentine School. Which artist is particularly renowned for his depictions of the goddess Venus?

(SANDRO) BOTTICELLI [bot-ih-CHEL-ee] (Accept: (ALESSANDRO) FILIPEPI)

29. This mountain peak was named for a nineteenth-century British surveyor general in India. It is on the border of Nepal and China, and its summit was first reached by Tenzing Norgay and Sir Edmund Hillary. What mountain in the Himalayas contains the highest elevation on Earth?

(MOUNT) EVEREST

30. This test is sometimes referred to as the pencil test. What test can be used to easily determine if the graph of a relation represents a function?

VERTICAL LINE (TEST)

31. In Polynesian languages, this word names anything that is at once sacred and forbidden. Give the five-letter word beginning with t for any action that society deems inappropriate.

TABOO

32. This artist was sometimes called the "Leonardo of the North" because of his varied interest in many subjects. He raised printmaking to an art form, and applied the use of hatching to create shadows and depth in his woodcuts. Identify this German artist who, in addition to his many self-portraits, created several paintings and engravings of Saint Jerome.

(ALBRECHT) DÜRER [DYOOR-er]

33. This place was named Cape of Storms by Bartolomeu Dias [bahr-too-loo-MEH-oo DEE-ash], after he became the first known European to sail past it. One account says that King John of Portugal renamed it because he thought it was a good omen. Name this promontory on the coast of South Africa.

(CAPE OF) GOOD HOPE

34. Triangle ABC is similar to triangle XYZ. If angle A has a measure of 40 degrees and angle B has a measure of 60 degrees, then what is the measure of angle Y, in degrees?

60 (DEGREES)

35. Using appropriate vector units, determine the momentum of a 50-kilogram person rolling down a hill at 3 meters per second.

150 KILOGRAMS (TIMES) METERS PER SECOND DOWN(WARD)

36. If an author calls soldiers "boots on the ground" or sailors "hands on deck," she is using this literary device. What kind of device uses part of a person or object to represent the whole?

SYNECDOCHE [sin-EK-duh-kee]

37. This period in art began in Italy, but by the sixteenth century had spread throughout Europe. One trademark characteristic of this period was the development of linear perspective and the use of balance and symmetry. Which period included artists such as Botticelli [bot-ih-CHEL-ee] and Michelangelo?

RENAISSANCE

38. This resource comes from an ancient carboniferous [kar-buh-NIF-er-us] swamp that covered the interior lowlands of North America million of years ago. It comes in two major types: anthracite and bituminous. What energy resource is found on the western edge of the Appalachians?

COAL

39. Using correct units, calculate the kinetic energy of a 1,000-kilogram car moving at a constant velocity of 10 meters per second.

50,000 JOULES [JOO LZ]

40. What is the cube root of 54 as a simplified radical?

5 RADICAL 2 (Accept: 5 SQUARE ROOT OF 2)

**End of Second Half – Begin Three-Minute Inquiry Period**

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### Extra Questions

- H-1 This seventeenth-century painting features a young woman wearing a blue and yellow scarf on her head while looking back over her shoulder. The story of its creation was fictionalized in a 1999 novel, which was later made into both a film. Identify this Vermeer work in which the viewer's eye is drawn to a simple piece of jewelry.

GIRL WITH A PEARL EARRING

- SS-2 Washington's troops took up quarters here after being defeated at the battles of Brandywine and Germantown. Situated on the west bank of the Schuylkill [SKOOL-kil] River, it provided a place where Baron von Steuben could drill the troops into an effective fighting force. Where did the Continental Army take up winter quarters in the winter of 1777?

VALLEY FORGE (PENNSYLVANIA)

- SC-3 When a star rotates away from the Earth, its electromagnetic radiation exhibits this phenomenon. It is similar to the Doppler effect in that it lengthens the frequency of the wave. What colorful astronomical phenomenon is used to demonstrate the expansion of the universe?

REDSHIFT

- M-4 Which two-digit negative integer has the largest absolute value?

NEGATIVE 99

- LA-5 Works in this literary genre, closely related to autobiography, include Elie Wiesel's *Night* and Frank McCourt's *Angela's Ashes*. Give the six-letter word for a work in which someone--often a politician or celebrity--recounts past experiences.

MEMOIR