

# Round 3

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

1. A Chinese instrument, the "dizi," is a traditional flute made of this grass. It can grow up to four feet in 24 hours, and can reach heights of twenty feet. A staple in the diet of the panda, name this plant called the "perfect renewable resource."

BAMBOO

2. A dancer controls this element of dance with tension and relaxation. It allows the dancer to make heavy movements or smooth, flowing movements. Which element of dance is determined by the energy that a dancer uses?

FORCE (Accept: ENERGY)

3. A prism has a base with an area of 25 square units. The height of the prism is 12 units. What is the volume of the prism, in terms of cubic units?

300 (CUBIC UNITS)

4. British forces retreated to this coastal town so their commander could maintain communication by sea with the main British army in New York. Continental and French troops left New York and hurried southward to join the forces besieging the British. At what Virginia town did forces under Washington and Lafayette force British General Cornwallis to surrender?

YORKTOWN (VIRGINIA)

5. This author founded and served as principal of Mount Vernon School, a girls' secondary school. He wrote the Franconia Stories, but is better known for creating a young boy who travels the world with his uncle George. Name the nineteenth-century American author of the Rollo series.

(JACOB) ABBOTT

6. Animals in this category generally have broad, flat teeth adapted to crushing and grinding. Elephants, giraffes, horses, and cows are all examples. What kind of animals are adapted to living entirely on plants?

HERBIVORE(S)

7. Commissioned by the Medici family, this painting depicts the mythological creation of a goddess. She has emerged from the sea as a full-grown woman, standing on a shell. Which Botticelli [bot-ih-CHEL-ee] painting depicts a beautiful woman standing on a seashell?

BIRTH OF VENUS

8. Consider the relation given by the equation  $Y$  equals  $X$  squared. What is the domain of this relation?

ALL REALS

9. Four main theories try to explain this economic trend, including the quantity theory. The trend can be an increase in the supply of money, or an increase in money income. What economic trend is generally thought of in terms of an increase in prices?

INFLATION

10. In one adventure, this character heads for Spidermonkey Island with his nine-year-old crewman, Tommy Stubbins. He encounters the Great See Snail and befriends Chee-Chee the monkey and Polynesia the parrot. Who is this Hugh Lofting creation, a naturalist and physician who can talk to animals in their own languages?

(DOCTOR) DOLITTLE

11. Archimedes [ar-kuh-MEE-deez] supposedly used this physical property to determine whether the king's wreath was pure gold. Displacement is commonly used when measuring volume in an irregular object to calculate this property. Name this physical property that is defined as the amount of mass per unit of volume.

DENSITY (Accept: SPECIFIC GRAVITY)

12. Convex quadrilateral ABCD is similar to quadrilateral PQRS. If the measures of angles A, B, and C are 100 degrees each, then what is the measure of angle S, in degrees?

60 (DEGREES)

13. Finished in 1800, this canvas was done by the official painter to the Spanish court. It displays the subjects in all their royal finery, but does nothing to hide their plain, squat stature. Identify this depiction of the royal family, painted by Francisco Goya.

CHARLES IV OF SPAIN AND HIS FAMILY

14. He arrived in Boston in 1631, but was banished from Massachusetts Bay Colony in 1634. His unpopular religious views caused him trouble in Massachusetts, so he founded a town on Narragansett Bay in 1636. Name the religious reformer who founded Rhode Island.

(ROGER) WILLIAMS

15. The author entitled the first of his "Extraordinary Journeys" novels Five Weeks in a Balloon. He created the eccentric protagonists Otto Lidenbrock, Captain Nemo, and Phileas Fogg. Name the French science fiction author of Journey to the Center of the Earth, Twenty Thousand Leagues Under the Sea, and Around the World in Eighty Days.

(JULES) VERNE

16. Arthropods, cephalopods, and gastropods all belong to this classification. Jellyfish are a good example, as they become unstructured blobs when they are beached. Give the word for animals that are spineless.

INVERTEBRATE(S)

17. For a rectangle, the ratio of length to width is three to five. If the perimeter of the rectangle is 32, what is the length, in units, of the rectangle?

6 (UNITS)

18. He dropped out of high school and earned a GED, then became a private contractor for the NSA in 2009. He fled the United States in 2013, and ended up in a Russian airport. Name this American security contractor who leaked information about United States' surveillance, and sought asylum in Russia.

(EDWARD) SNOWDEN

19. He was one of the few Renaissance architects who actually trained in building construction as a stonemason. His buildings and designs exhibit symmetry and a distinct Roman influence. Which architect wrote the treatise titled The Four Books of Architecture?

(ANDREA) PALLADIO [puh-LAH-dee-oh]

20. In this novel, a young girl moves to Los Alamos, New Mexico, where her mathematician father is helping to build "the gadget." Dewey Kerrigan meets J. Robert Oppenheimer, director of the Manhattan Project, and discovers that "the gadget" is actually an atomic bomb. Name this historical novel, winner of the Scott O'Dell Award, written by Ellen Klages [CLAY-jes].

(THE) GREEN GLASS SEA

21. Brushing and flossing can not only prevent, but also treat this disease. If left untreated, underlying dental bone can be infected, causing periodontitis. Name the disease caused by poor dental hygiene, that is marked by the inflammation of the gums.

GINGIVITIS

22. How many permutations are there of 8 things if they are taken 2 at a time?

56

23. Multiple answer required. One of these cities had a massive wall around its citadel, whose name means "high city." The other was known for its rigorous military rule, which made soldiers of nearly all its male citizens. What two Greek city-states led the opposing alliances during the Peloponnesian [pel-uh-puh-NEE-zhun] War?

ATHENS, SPARTA

24. The author wrote and illustrated this book in response to his children's question of whether he was a settler like early American pioneers. It details his childhood in Soviet-controlled Czechoslovakia and the influence of Western pop culture on dismantling the Iron Curtain. What is this book, subtitled Growing Up Behind the Iron Curtain, by Peter Sís [SEES]?

(THE) WALL

25. The premier of this overture was delayed by police for two weeks because they feared it would stir up trouble at the university where the premier was held. Its main melodies come from tavern songs that were well-known to German college students. Which work did Brahms compose for the occasion of his receiving an honorary doctorate of music degree?

ACADEMIC FESTIVAL (OVERTURE)

26. Charles Goodyear patented this process in 1844. It is performed by heating rubber mixed with sulfur. Named after the Roman god of fire, what is this process that improves the strength and elasticity of rubber?

VULCANIZATION

27. First and last name required. As a composer, he sought to combine the techniques and forms of classical music with the style and rhythms of popular music and jazz. He created several Broadway musicals with his brother, including *Girl Crazy* and *Of Thee I Sing*. Who composed *Rhapsody in Blue* and *Porgy and Bess*?

GEORGE GERSHWIN

28. In geometry, what name is given to two rays that share a common endpoint?

ANGLE

29. In this poem, the speaker's horse "gives his harness bells a shake / To ask if there is some mistake," but, "The only other sound's the sweep / Of easy wind and downy flake." It ends with the speaker remembering that he has "promises to keep, / And miles to go before I sleep." Name this Robert Frost poem.

"STOPPING BY WOODS ON A SNOWY EVENING"

30. The editor of one Detroit paper wrote that this political leader was innocent because Senator Benjamin Wade was "guilty of being his successor." The political leader's refusal to submit to the demands of Radical Republicans in Congress resulted in a call for his impeachment. Who was the first president to face impeachment, retaining his office by just one vote?

(ANDREW) JOHNSON

31. Connecting circuits in this way can double the voltage while maintaining the same capacity. What wiring configuration creates a single continuous flow of electricity?

SERIES

32. Early versions of this instrument were developed in Germany in the early 1800s. Today it is popular with folk musicians across Europe. It consists of a set of bellows with piano-like keys on one side, and rows of buttons on the other. Name this instrument that is related to the concertina.

ACCORDION

33. In 1940, this man confessed to his cabinet that he had nothing to offer them but "blood, toil, tears, and sweat." In the wake of Dunkirk's successful evacuation, he assured listeners, "we shall fight on the beaches, we shall fight on the landing grounds...we shall never surrender." Identify this prime minister, who led Britain through World War II.

(WINSTON) CHURCHILL

34. Multiple answer required. Give the next two terms in this pattern: million, billion, trillion, and so on

QUADRILLION, QUINTILLION

35. The origin of this people is uncertain, but it is suggested that they were a tribe of hunters and gatherers on the northern Mexican plateau. Their success in creating an empire was due to their remarkable system of agriculture, which included irrigation and the reclamation of swamp land. What empire's downfall came at the hands of Hernán Cortés [her-NAN KAWR-tez]?

AZTEC (Accept word forms)

36. Ecologists abbreviate this concept with a capital K. It differs for every species in a given habitat because each species has specific food, social, and shelter needs. What term names the maximum number of a species' organisms that an environment can support?

CARRYING CAPACITY

37. First developed in the early 1940s, this style of jazz was the first to make full use of the twelve-note chromatic scale. It is characterized by complicated melody lines and chord patterns played at exceptional speed. Name this style of jazz pioneered by Thelonius [thuh-LOH-nee-uhs] Monk, Dizzy Gillespie, and Charlie Parker.

BEBOP (JAZZ) (Accept: BOP (JAZZ))

38. Multiple answer required: Solve the equation for X: Quantity X plus 2, close quantity, squared, equals 25.

(X EQUALS) 3, NEGATIVE 7

39. One character in this story, John Wilson, is an artist who lost arm in the Vietnam War. His summer art class helps eighth grader Adam Zebrin [ZEE-brin] regain mobility in his damaged left hand. Give the name of this Chaim Potok [HYM PO-tahk] story.

ZEBRA

40. This abyss [uh-BISS] marks the location where the Pacific tectonic plate dips beneath the Philippine plate. It was explored in 2012 by filmmaker James Cameron. What trench is considered the deepest trench on Earth, reaching depths of more than 35,000 feet?

MARIANA(S) (TRENCH)

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

## Round 3 - Second Half

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

1. English aristocrats encountered this style of dancing in fashionable Parisian ballrooms in the early 1800s. It consisted of couples in square formation that danced intricate patterns between and around each other. Identify this dance, the precursor to American square dancing, and takes its name from the number of couples involved, four.

QUADRILLE

2. Galileo discovered four of this planet's moons--Io, Ganymede [GAN-uh-meed], Callisto, and Europa--in 1609. It rotates twice as fast as Earth, but takes twelve years to orbit the Sun. Which planet is our solar system's most massive?

JUPITER

3. In this fable, "gratitude is the sign of noble souls." An escaped slave removes a thorn from a beast's paw, only to have the beast spare his life later on. What is the name of this Aesop fable?

ANDROCLES AND THE LION

4. One pint of strawberries contains about 12 strawberries. Using this estimation, how many strawberries would be in a gallon of strawberries?

96 (STRAWBERRIES)

5. This amendment in the Bill of Rights was a response to the British practice of requiring colonists to provide shelter for their troops. Which amendment includes the statement, "No soldier shall, in time of peace be quartered in any house, without the consent of the Owner"?

THIRD (AMENDMENT) (Accept: (AMENDMENT) THREE)

6. Correct the grammatical error, if one exists, in the following sentence: Who stepped on my package of M&M's?

NO CORRECTION NEEDED (Accept equivalent answers)

7. Followers of this religion emphasize the Three Treasures: compassion, humility, and moderation. It focuses on harmony with nature, and is sometimes called The Way or The Path. Identify this Chinese religious tradition founded by Lao Tzu [LOW (as in "how") DZUH].

TAOISM (Accept: DAOISM)

8. In 2004, ten-year-old Tilly Smith, on vacation in Thailand, saved dozens of lives when she warned her family about this dangerous aftermath of an undersea earthquake. Friction as the ocean floor rises causes the water to rise higher. What destructive wave takes one of its names from the Japanese for "harbor wave"?

TSUNAMI (Accept: TIDAL WAVE)

9. Solve the equation for A:  $4X$  minus  $2A$  equals  $8Y$ .  
(A EQUALS)  $2X$  MINUS  $4Y$  (Accept: (A EQUALS) NEGATIVE  $4Y$  PLUS  $2X$ )
10. This compass point lies at 22 degrees north, 30 minutes east. What compass direction is abbreviated as NNE?  
NORTH-NORTHEAST (Not: NORTH BY NORTHEAST)
11. Capitalize the appropriate words in the following sentence: John and I sent our uncle George a birthday card.  
JOHN, I, GEORGE (any order)
12. Hubris was the downfall of many figures in mythology, including this weaver, who was the daughter of Idmon. She boasted of her skill with the loom, and challenged the goddess Athena to a contest. What character in Greek mythology was transformed into a spider so she could weave forever?  
ARACHNE [uh-RAK-nee]
13. In biology, this term can refer to a simple structure, such as a seed, bud or spore. It can also refer to a microorganism, especially one that produces disease in plants or animals. Identify the word that can describe a pathogen, such as a bacterium or virus, that we strive to kill with proper hand-washing technique.  
GERM(S)
14. Solve the inequality: 2 times the quantity  $X$  plus 5, close quantity, is less than  $X$  minus 8  
 $X$  IS LESS THAN -18
15. This disease took the lives of perhaps two-thirds of the crew who sailed with Vasco Da Gama around Africa to India. Name this disease caused by a deficiency of the vitamin found in citrus fruit.  
SCURVY (Accept: VITAMIN C DEFICIENCY)
16. Directed by Marianne Elliott and Tom Morris, this Broadway play was based on the novel of the same name by Michael Morpurgo. It tells the story of Billy Narracott and Joey as they try to survive during World War One. What play features life-sized horse puppets and horse choreography?  
WAR HORSE
17. Identify the verb tense of the following sentence: At six p.m., they will have danced for six hours.  
FUTURE PERFECT (TENSE)
18. In cells, this substance lies outside the nuclear membrane, but inside the cell membrane. What semifluid substance, in eukaryotes [yoo-KAR-ee-ohtz], contains all of a cell's organelles?  
CYTOPLASM [SAHY-tuh-plaz-uhm]

19. The length of a rectangle is 3 more than twice the width of the rectangle. If the perimeter of the rectangle is 36 units, what is the length of the rectangle?
- 13 (UNITS)
20. This former slave was invited to speak to an anti-slavery conference in Nantucket, Massachusetts, in 1841. He later established his own anti-slavery newspaper, North Star. Name this man who would call for former slaves to be enlisted in the Union Army, and who late in life was named U.S. minister to Haiti.
- (FREDERICK) DOUGLASS (Accept: (FREDERICK) BAILEY)
21. At the age of fourteen, this singer moved to Nashville and quickly became the youngest songwriter ever hired by Sony Music. In 2008, she crossed over into pop music with her singles "Love Story" and "You Belong With Me." Which musical icon declares that "We Are Never Ever Getting Back Together"?
- (TAYLOR) SWIFT
22. In international law, this word means "refuge afforded to a person whose extradition is sought by a foreign government." It also refers to the sacred refuge that the Christian church formerly provided to criminals and debtors. What six-letter word previously named an institution that housed orphans or the mentally ill?
- ASYLUM
23. It is a pyrimidine [pahy-RIM-i-deen] nitrogenous base whose molecular formula is C-4-H-5-N-3-O. One of the basic components of both DNA and RNA, it forms a base pair with guanine [GWAH-neen]. Name this base, often abbreviated C.
- CYTOSINE [SITE-oh-seen]
24. This river drains an area of some 2.7 million square miles. It begins high in the Andes Mountains, and travels eastward thousands of miles into the Atlantic Ocean. Name the river that includes the largest drainage system in the world, and rivals the Nile River in length.
- AMAZON (RIVER)
25. What is the absolute value of the quantity, 4 minus 20, close quantity?
- 16
26. In Latin, this root translates as "to speak." Identify the root present in contradict and dictionary.
- DICT- (Accept stated or spelled)
27. It may be partially consolidated sandstone, or loose sand that contains high concentrations of bitumen [by-TOO-muhn]. It produces synthetic crude oil, a powerful fossil fuel. Name this type of sand from which asphalt can be obtained.
- TAR SAND(S)



28. This depiction of the Peninsular War was influenced by Rubens' Massacre of the Innocents, and in turn influenced Picasso's Guernica [gher-NEE-kah]. It depicts soldiers killing a group of resistance fighters who are highlighted by the soldiers' lantern. Identify this Goya painting that depicts the atrocities of the Napoleonic invasion of Spain.

(THE) THIRD OF MAY 1808 (Accept: (THE) EXECUTION OF THE DEFENDERS OF MADRID ON THE THIRD OF MAY, 1808)

29. This scientific instrument used for observations dates back to at least A.D. 600. It came into wide use during the Middle Ages, particularly in the Islamic world. Name this instrument, used for reckoning time, or calculating the position of the sun and prominent stars, with respect to the horizon and meridian.

ASTROLABE [AS-truh-laib]

30. What is the product of the following two polynomials? The quantity, 3 X minus 4, close quantity, times the quantity 5 X plus 8, close quantity.

15 X SQUARED PLUS 4 X MINUS 32

31. In scientific jargon, this French phrase is known as promnesia [prom-NEE-zuh]. Literally, it means "already seen." Identify the sensation of having previously encountered something that you are actually experiencing for the first time.

DÉJÀ VU [day-zhah VOO]

32. This painting depicts the mythological tale about a Titan who, fearful that one of his children will overthrow him, eats each one as it is born. It is the most famous of the Black Paintings that resided in the artist's house and was not intended for public display. Name this dark, malevolent work by Francisco Goya.

SATURN DEVOURING HIS CHILDREN

33. This property can be determined by the wavelength of the light reflected from a surface. It is often described in terms of saturation, hue, and lightness. Name this physical property that is measured on a spectrum, and is notably demonstrated in refraction of light through prisms.

COLOR

34. Three-word answer, please. The Bear, Weber, and Jordan rivers flow into the lake, which has no outlet. The lake is a remnant of an ancient lake ten times its size, in the Great Basin region of the United States. Name this lake which is the largest non-freshwater lake in the Western Hemisphere.

GREAT SALT LAKE

35. What is the sum of the digits of the largest three digit prime number?

25

36. If this kind of poem is in the Petrarchan [puh-TRAR-kun] style, it consists of an octave followed by a sestet. If it is Shakespearean, it comprises three quatrains and a couplet. What is this fourteen-line poem?

SONNET

37. This painting was created shortly after the artist moved to New York City, and it is inspired by Manhattan's city grid. The perpendicular lines are yellow with red, blue, and white squares, instead of the solid black the artist often used. Identify this Piet Mondrian [PEET mon-dree-AHN] painting whose title is an homage to his favorite city and his favorite dance.

BROADWAY BOOGIE-WOOGIE

38. This property is increased when energy from light causes a substance to vibrate faster. It is defined as the average kinetic motion of a substance. Name this property that can be measured in Kelvin, Celsius, and Fahrenheit.

TEMPERATURE

39. Two of the earliest villages in this region are Hassuna [hah-SOO-nah] and Tell Sawwan [SOW-wahn]. Later, civilizations such as Sumeria and Assyria arose there. The name of what region comes from a Greek words that refer to the land between the Tigris and Euphrates rivers?

MESOPOTAMIA

40. What is the sum when you add the square root of 8 to the square root of 18? What is the result when you multiply the square root of 50 times the square root of 4 ?

10 RADICAL 2 (Accept: 10 SQUARE ROOT OF 2)

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

---

### Extra Questions

- H-1 This period of art began in Paris in the nineteenth century, with its name taken from a painting by one of its founders. It tried to use light and color to record reality in an accurate and objective style. What art movement included Monet [moh-NAY], Renoir [ren-WAHR], and Cassatt [kuh-SAT]?

IMPRESSIONISM (Accept word forms)

- SC-2 This unit is officially defined as producing a force equal to two times ten to the negative seventh power per meter of length between two conductors. It can be understood as the flow of one coulomb [KOO-lahm] of electricity per second. Name this unit of electricity current.

AMP(ERE)

- LA-3 This word, the state motto of California, means "I have found it" in Greek. What word did Archimedes [ahr-kuh-MEE-deez] scream when he discovered a scientific principle by displacing water in a bathtub?

EUREKA [yoo-REE-kuh]

- M-4 Which statistical measure, which is part of the five-number summary, is equal to the 50th percentile?

MEDIAN

- SS-5 While representing New York in Congress in the 1780s, he argued that the country needed a stronger central government. A master of financial planning, he wrote many of the articles in "The Federalist Papers." What secretary of the Treasury persuaded Congress to establish a national banking system, and a revenue program to provide for the repayment of the national debt?

(ALEXANDER) HAMILTON