

# Round 1

## Middle Grades – 2015-16 Governor's Cup Practice Questions

1. What is the least common multiple of 14 and 21?

42

2. A tax on this product resulted in an insurrection in western Pennsylvania in 1794. In response, President Washington called for militia from Pennsylvania and three neighboring states to put down the rebellion. What was this product that was being taxed by the federal government?

WHISKEY

3. "Benefactor" and "benevolent" both contain the Latin root "bene-." Give its English meaning.

GOOD (ACCEPT: WELL)

4. As a teenager, this composer worked as a dance hall musician playing in saloons throughout the Midwest. A couple of early operas, *A Guest of Honor* and *Treemonisha*, went largely unnoticed, but his piano music, including "Maple Leaf Rag," earned him lasting fame. Who was this composer of "The Entertainer," often called the "king of ragtime"?

(SCOTT) JOPLIN

5. A blog called *The Oatmeal* raised \$1.3 million to save Wardenclyffe, the site of this man's laboratory. The site will house a museum showcasing this brilliant Serbian-American's life, including his ideas about electricity. Identify this inventor, an employee of Thomas Edison, whose claim to fame is an electrifying coil bearing his name.

(NIKOLA) TESLA

6. A cone has a radius that has the same length as the height of the cone. If the volume of the cone is  $72\pi$  cubic units, then what is the length, in units, of the radius of the cone?

6 (UNITS)

7. A writer may place this punctuation mark between an opening quotation mark and a bracketed capital letter to delete the beginning sentence of quoted material. Like the dash, it indicates an omitted paragraph, line, phrase, or word. What is this punctuation mark consisting of three evenly spaced dots?

ELLIPSIS

8. After a short dance career, this man joined the Ballets Russes [bal-EY ROOS], where he choreographed *The Prodigal Son* and *Apollo*. With Lincoln Kirstein, he organized the School of American Ballet and the American Ballet, which briefly partnered with the Metropolitan Opera. Identify this man, who choreographed over 150 works for and served as artistic director of the New York City Ballet.

(GEORGE) BALANCHINE [BAL-un-cheen]

9. A treaty signed in 1848 with this nation resulted in the United States gaining all the territory now included in more than five current Western states. The treaty followed a war in which Zachary Taylor emerged as a national hero and succeeded James Knox Polk as president in 1849. Identify this nation, that had claimed the border of Texas to be the Nueces [noo-EY-sayss] River rather than the Rio Grande.

MEXICO

10. A five number summary for a data set consists of the minimum, lower quartile, median, upper quartile, and maximum. What percentile corresponds to the upper quartile?

75TH (PERCENTILE) (Accept: 75%)

11. A dermatologist might tell you to buy Compound W to cure these unsightly skin blemishes. If they are of the plantar variety, you'll find them on your feet. Name these small, hard, benign skin growths caused by a virus, and also found on toads.

WART

12. A quadratic function has vertex of (2, 8). Using the fact that  $x = 2$  is a line of symmetry of the function, if we know that the point (6, 20) is a point on the function, what other point must also be on the function on the opposite side of the line of symmetry?

(-2, 20)

13. Although Venus wanted this mythological woman to fall in love with a horrible man, she ended up in a remote palace where the god of love visited her nightly. When she lit a lamp and spied Cupid, he fled, but Jupiter reunited the two when he granted her immortality. Identify this woman, whose name also signifies the human spirit or mind.

PSYCHE [SIGH-kee]

14. A human being's bones go through this process approximately every seven years. Other examples include a starfish growing a missing arm, or a lizard regrowing its tail after it breaks off. Name the process of regrowing lost or damaged tissues, limbs, or organs.

REGENERATION

15. According to legend, this man was arrested for threatening the governor's life, but saved that governor's life on the way to prison, and eventually killed him in an ambush. He was supposedly a peasant from the canton of Uri who inspired his nation to overthrow Austrian rule. Name this European folk hero who shot an apple off of his son's head with a single arrow.

(WILLIAM) TELL

16. He captured Jerusalem in 597 B.C., and deported Judah's King Jehoiachin [dzhee-HOI-uh-kihn] to Babylon. He rebuilt and expanded Babylon, adding a great moat around the city. Name this Chaldean king who is said to have constructed the hanging gardens of Babylon.

NEBUCHADNEZZAR [neb-uh-kuhd-NEZ-er] (THE SECOND)

17. Although all of this novel's characters are fictional, the author based it on real incidents of racial violence like the Trayvon Martin shooting. Jack Franklin, a white man, fatally shoots sixteen-year-old Tariq Johnson, whose community struggles to piece together the motivation behind the crime. Name this Coretta Scott King Honor work by Kekla Magoon [KEK-luh muh-GOON].

HOW IT WENT DOWN

18. A theater has 10 seats in the front row and adds 2 seats to each row behind it. How many seats does the sixteenth row in the theater have?

40 (SEATS)

19. Art techniques that fall into this category include stippling, hatching, and crosshatching. Artists use it to create the illusion of form in two-dimensional drawings and paintings. What method represents different values of a color, or shadows and light in an artwork?

SHADING (TECHNIQUES)

20. A July 14, 2015 article on nasa.gov read, "Three billion miles away, [this celestial body] has sent a 'love note' back to Earth, by way of NASA's New Horizons spacecraft." After making the news in 2006 for being downgraded to a dwarf planet, this member of the Kuiper belt was recently photographed with detailed definition. Name the former planet that a NASA probe flew by in mid-2015.

PLUTO

21. He defeated Mark Antony [AN-tuh-nee], and used Cleopatra's treasure to pay off his veterans. His original name was Gaius Octavius [GEY-uhs ok-TEY-vee-uhs], the adopted son of Julius Caesar. Give the name this first Roman emperor adopted.

AUGUSTUS (CAESAR) [aw-GUHS-tuhs SEE-zer]

22. At a uniform store, you find out that 3 shirts and 2 pair of pants cost \$70, and 2 shirts and 3 pair of pants cost \$80. How much will it cost for 1 shirt and 1 pair of pants?

30

23. He was born in the West Indies, and died as the result of a duel with the American vice president. He was one of three collaborators who wrote the essays collectively known as *The Federalist*. Name this first Secretary of the Treasury of the United States.

(ALEXANDER) HAMILTON

24. A method for making this compound earned Samuel Hopkins the first U.S. patent in 1790. Originally, it had to be leached out of wood and plant ashes by soaking them in water. Name these potassium salts, an important ingredient in chemical fertilizer, that are now mined and exported all over the world.

POTASH [POT-ash]

25. As a verb, this animal word often precedes "out" in a phrase meaning "to search out, discover, or bring to light." What word also names a domesticated weasel relative that many people keep as pets?

FERRET

26. Because a basilica has side aisles, this word refers only to the church's central aisle. In other churches, it extends from the narthex, or entrance, to either the transepts or, when those are absent, the chancel around the altar. Give the architectural term for a Christian church's central, principal section.

NAVE

27. Beethoven included a "funeral" one of these compositions in his *Eroica* symphony, while Berlioz placed one "to the Gallows" in *Symphonie fantastique* [fan-tas-TEEK]. The wedding scene from Wagner's [VOG-nuhrz] *Lohengrin* features one, and one of the world's most famous examples plays at most graduation ceremonies. What type of composition is "Pomp and Circumstance," as well as "Semper Fidelis" and "The Stars and Stripes Forever" by John Philip Sousa?

MARCH

28. Consider the function,  $F$  of  $X$ , defined by the ordered pairs:  $(3, 5)$ ,  $(2, 5)$ ,  $(4, 3)$ , and  $(5, 2)$ . Using this function, what is  $F$  inverse of 3?

4

29. A scientist accidentally discovered this antibiotic's healing power when he observed no bacteria left in an exposed petri dish. Sir Alexander Fleming instead saw this mold where the bacteria should have been multiplying. Name this antibiotic that was later isolated and purified by Ernst Chain and Howard Florey.

PENICILLIN

30. Pedro Cabral [kuh-BRAHL] first visited this continent in April 1500 at a point that translates as Mount Easter. But the continent's highest point is Mt. Aconcagua [ah-kawn-KAH-gwah]. Name this continent, whose longest river is the Amazon.

SOUTH AMERICA

31. As an adjective, this word refers to a friendly, welcoming spirit that pervades an area. Its numerous meanings in its native language include "love," "hello," and "goodbye." Give this word, which can be found in the nickname for Hawaii.

ALOHA

32. Consider the linear function,  $Y$  equals  $2X$  minus 8. What is the sum of the  $X$ -intercept with the  $Y$ -intercept?

NEGATIVE 4

33. According to health-alicious-ness.com, two of the foods highest in this fat-soluble vitamin are cooked sweet potatoes and cooked kale. Also known as retinol, it helps prevent night blindness. What vitamin, found in high levels in carrots, promotes healthy eyesight?

(VITAMIN) A

34. Before becoming a household name, this man earned a mechanical engineering degree from Cornell University. He used that knowledge in his five-year television show, in which he donned a lab coat and bow tie to teach viewers about a new natural science topic each episode. Identify this comedian and educator known as the "science guy."

(BILL) NYE

35. As this novel opens, Matthew Maule curses Colonel Pyncheon, who had Matthew hanged for witchcraft so he could gain ownership of his land. Hepzibah, Clifford, Phoebe, and Holgrave live in the title structure, whose curse is lifted when the devious Judge Jaffrey Pyncheon dies. Give the title of this Nathaniel Hawthorne novel.

(THE) HOUSE OF THE SEVEN GABLES

36. This action had its origins in an act passed by the British Parliament that granted a monopoly on the import of a certain product into the colonies. Resistance to this act came to a head when Governor Thomas Hutchinson insisted that ships carrying this product be allowed to unload it in Boston. What three-word phrase identifies this action, in which several hundred chests containing this product were dumped in the harbor by patriots dressed as Indians?

BOSTON TEA PARTY

37. According to the National Hurricane Center, this "is often the greatest threat to life and property from a hurricane." Partially caused by hurricane-related pressure differences, it mostly results from high-powered winds blowing over the ocean's surface. What is an abnormal rise of water generated by a storm, over and above the predicted astronomical tides?

STORM SURGE

38. Consider the prime numbers between 30 and 40. What is the sum of these numbers?

68

39. This economic theory was practiced in Europe from the 16th to the 18th centuries by nations with colonies. Under it, nations used colonial possessions as markets for their exports, and suppliers of raw materials. Name this theory, which forbade manufacturing in the colonies in competition with the mother country.

MERCANTILISM

40. As this story opens, minor character Whitney ponders how it would feel to be the hunted, rather than the hunter. Ivan, a deaf and mute Cossack, guards General Zaroff, a Russian aristocrat who hunts Rainsford on the island where he is shipwrecked. Name this suspenseful short story by Richard Connell.

"(THE) MOST DANGEROUS GAME"

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

# Round 1 - Second Half

## Middle Grades – 2015-16 Governor's Cup Practice Questions

41. Cubans created this instrument around 1900 to provide percussion in Latin American dance bands. A pair of drum heads, one five inches and one seven inches in diameter, are attached to each other by open-ended wooden shells. What are these small drums played with the hands and fingers?

BONGO (DRUMS) (Accept: BONGOS)

42. Although this process is a natural part of evolution, human intervention is increasing its likelihood for certain species. "Critically endangered" is the last status given to a species before this terminal state. What word marks the eradication of a species, such that it no longer exists on Earth?

EXTINCT(ION)

43. At this play's conclusion, the heroine doesn't indicate whether she will marry Freddy or return to her temporary home on Wimpole Street. After entering into a wager with Colonel Pickering, Henry Higgins teaches Eliza Dolittle to behave and, most importantly, speak like an English lady. What is this mythologically titled George Bernard Shaw play?

PYGMALION

44. This is a major wind system that reverses its direction with the seasons. Typically, its winds blow from sea to land in the summer, and from land to sea in the winter. What do we call such a system as the one that brings heavy rains to India during June and July?

MONSOON(S)

45. During this festival, also known as the "feast of dedication," observants eat latkes [LAHT-kuhz] and chocolate coins wrapped in gold foil, and play with a dreidel [DREYD-I]. Occurring in December, it commemorates the rededication of Jerusalem's second temple, and the miraculous oil that burned for eight days. Identify this Jewish "festival of lights" in which participants light a menorah [muh-NOHR-uh].

HANUKKAH

46. Find the sum of the following integers: 15, 21, 28, 31.

95

47. This Italian navigator made at least two voyages to the New World, the first for Spain, and the second for Portugal. It was during the second voyage that he became convinced that the newly discovered lands were not Asia, but a new land. Name this geographer, whose name became attached to this "New World."

AMERIGO VESPUCCI [uh-MER-i-goh ve-SPOO-chee]

48. He painted a number of royal portraits, including *Prince Balthasar Charles as a Hunter* and *Infanta Margarita Teresa in a Blue Dress*. He portrayed a biblical scene in *Christ in the House of Mary and Martha*, and a mythological one in *The Triumph of Bacchus*. Name the painter of *The Lady with a Fan* and numerous portraits of Philip the Fourth.

(DIEGO) VELÁZQUEZ [vuh-LAHS-kez]

49. An Austrian monk studied this branch of genetics in the 19th century. It is defined as the transmission of genetic traits from parents to offspring. What is the word for this passage of traits, which Gregor Mendel studied with experiments involving pea plants?

HEREDITY

50. Carl Sandburg uses this literary device in his poem "Honky Tonk in Cleveland, Ohio" when he writes, "It's a jazz affair, drum crashes and cornet razzes." Edgar Allen Poe employs it in "The Bells," which describes, "How they clang, and clash and roar!" What kind of word creates a sound effect to mimic the thing it describes, as in "cuckoo" or "meow"?

ONOMATOPOEIA [ahn-uh-mah-tuh-PEE-uh]

51. How many distinguishable permutations are there of the letters in the word RECALL?

360

52. An object has reached this speed when its kinetic energy is equal in magnitude to its gravitational potential energy. For Earth, its value is 25,000 miles per hour, while for the moon, it is only 5,300 miles per hour. What term, abbreviated EV, refers to the speed needed to break the orbit of a celestial body?

ESCAPE VELOCITY

53. This location has been famous for honeymoons for decades. It lies on the border between Ontario, Canada, and New York State. Identify this cataract, which dumps water from Lake Erie into Lake Ontario.

NIAGARA FALLS

54. In right triangle ABC, the sine of angle A is three-fifths. What is the cosine of angle A?

FOUR-FIFTHS

55. Important locations in this musical include the Har-De-Har Hut, a local joke shop, and Motormouth Maybelle's Record Shop. Using songs like "You Can't Stop the Beat" and "Mama, I'm a Big Girl Now," it tells of Tracy Turnblad's attempts to integrate a local dance program, *The Corny Collins Show*. Name this 1960s-era musical that opens with "Good Morning Baltimore."

HAIRSPRAY

56. Characters in this novel include Betsy, the fourteen-year-old owner of Petunia the dancing bear, and the highwaymen Cutwater and Hold-Your-Nose Billy. Prince Horace, nicknamed Brat, escapes the palace with Jemmy, an orphan who has taken all the prince's punishment. Give the name of this Newbery-winning historical novel by Sid Fleischman [FLYSH-muhn].

(THE) WHIPPING BOY

57. Correct the grammatical error, if one exists, in the following sentence: Michael drunk all the milk in the glass.

CHANGE "DRUNK" TO "DRANK"

58. Anemia can be caused by red blood cells that are deficient in this pigment. Iron is necessary for the formation of this blood protein, which transports oxygen to tissues. Identify this blood protein, which absorbs two-thirds of the iron humans ingest.

HEMOGLOBIN

59. Jim measured the length of a nail and found it to be 150 millimeters long. How long is the nail in centimeters?

15 (CENTIMETERS)

60. This state was the first among seven to secede from the United States between the time Lincoln was elected and his inauguration. It was the home state of Vice President and Senator John C. Calhoun. Name this state, where the Civil War began with the attack on Fort Sumter.

SOUTH CAROLINA

61. This method of dealing with perceived heresies within the Roman Catholic faith was first used near the beginning of the 13th century. Those found guilty of heresy faced various punishments, some as severe as being burned at the stake. What was this method, whose Spanish judges were considered particularly severe?

INQUISITION

62. In 1888 and '89, he painted three similar depictions of his bedroom in the *Yellow House at Arles* [ARL]. Throughout his career, he made numerous paintings and prints of irises and sunflowers. Identify this Post-Impressionist best known for his unconventional landscape *Starry Night*.

(VINCENT) VAN GOGH

63. In one of his ballets, this composer adapts a folk tale in which Odette is transformed into the title bird. Clara, Fritz, the Mouse King, and the Sugarplum Fairy populate another of his ballets, frequently seen at Christmastime. Name the composer of *Swan Lake* and *The Nutcracker*.

(PYOTR ILYICH) TCHAIKOVSKY



64. Because humans chew their food with teeth, they lack this organ that birds possess. Sometimes called the ventriculus [vin-TRICK-you-luss], it can also be found in earthworms and cockroaches. Name the thick-walled muscular pouch that contains pebbles called gastroliths, which aid in certain animals' digestion.

GIZZARD

65. Events covered by this nonfiction book include the Trinity test, Otto Hahn's discovery of nuclear fission, and the Manhattan Project's creation. A British physicist sent the Soviet Union designs of the title object, which helped end World War Two. Give the title of this book about *The Race to Build — and Steal — the World's Most Dangerous Weapon*, by Steve Sheinkin [SHANK-in].

BOMB

66. Let F of X equal the algebraic fraction 1 over X. Let G of X equal the algebraic fraction, 3 over the quantity 4X. What is the sum of F of X and G of X?

7 OVER (THE QUANTITY) 4X

67. Fittingly derived from the Greek word for "bark," this word names the innermost layer of tree bark. It is one of the two primary components of plant vascular tissue, the other being the xylem [ZI-luhm]. Give the name for this bundle of fibers that forms a plant's food-conducting tissue.

PHLOEM [FLOH-em]

68. Give the case of the pronoun in the following sentence: When Angie orders Chinese takeout, she always gets extra egg rolls.

NOMINATIVE (CASE)

69. Multiple answer required. Which integers satisfy the following inequality? The absolute value of the quantity, X minus 4, close quantity is less than 3.

2, 3, 4, 5, 6

70. This term is used to describe what happens when nations face sharply reduced industrial production and widespread unemployment. This can often be experienced nearly worldwide. What is this term, which is used to describe a severe economic downturn, such as the one that began in 1929 in the United States?

DEPRESSION (Accept: GREAT DEPRESSION)

71. This actress is slated to portray Lynsey Addario, a journalist held captive by the Syrian army in 2011, in the upcoming biopic *It's What I Do*. She has played Mystique in three *X-Men* films, and became the second-youngest actress to win an Oscar, doing so at age twenty-two. Who portrays Katniss Everdeen in the *Hunger Games* movies?

(JENNIFER) LAWRENCE

72. Solve the proportion for x: 2 is to x as 6 is to 57.

19

73. This foodstuff is believed to have originated 2,000 years ago in China's Han Dynasty. It is made from dried soy beans that are soaked, crushed, and boiled. With up to 8% protein, name this staple in vegan and vegetarian diets that can be firm, soft, or silken.

TOFU

74. This man, whom Islam considers a prophet, allegedly wrote the biblical books of Proverbs, Ecclesiastes [ih-kee-zee-AS-teez], and Song of Songs. He had seven hundred wives, and ordered the construction of Jerusalem's first temple. Name this Israelite king, the son of David and Bathsheba, renowned for his wisdom.

SOLOMON

75. This term refers to the relationship between an individual and the state to which he owes allegiance. Its usual responsibilities are allegiance, taxation, and military service. What is this term, whose concept first arose in the city-states of ancient Greece?

CITIZENSHIP

76. In this novel, some characters dream of exploring the Wide World, but learn to steer clear of the Wild Wood, where Badger resides. Rat and Mole visit Toad Hall, whose owner goes to prison for stealing a motorcar, but escapes dressed as a washerwoman. Identify this novel full of anthropomorphized [an-thruh-puh-MAWR-fized] heroes by Kenneth Grahame.

(THE) WIND IN THE WILLOWS

77. In this poem, six hundred British cavalrymen "plunged in the battery-smoke" before slaying "Cossack and Russian" with their sabers. It immortalized the Crimean War's Battle of Balaclava [bal-uh-KLAH-vuh] with the refrain, "Half a league, half a league, / Half a league onward." Name this war poem by Alfred, Lord Tennyson.

"(THE) CHARGE OF THE LIGHT BRIGADE"

78. This three-word term for a semiconductor device that converts applied voltage into light usually goes by a three-letter acronym. They are more efficient, durable, versatile, and longer-lasting than other types of lighting, and generate less heat than incandescent bulbs. Which light source gets its name from its twin terminal structure?

LIGHT EMITTING DIODE

79. This musical, the highest-grossing show in Broadway history, has run continuously since its November 1997 premiere. Elton John and Tim Rice wrote several songs, including "They Live in You" and "Grasslands Chant," that weren't found in the blockbuster film version. Identify this musical, which also includes "Circle of Life" and "Hakuna Matata" [uh-KOO-nuh muh-TA-tuh].

(THE) LION KING

80. State your answer as a decimal. What is the decimal value of 2 raised to the negative three power?

0.125

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

## Extra Questions

SS-1 This was the last major prehistoric Indian culture in North America, lasting until the coming of the European explorers. It was scattered throughout the central part of the United States. Name this culture, whose largest earthworks was Monk's Mound in Illinois near St. Louis.

MISSISSIPPIAN (CULTURE)

H-2 This mythological woman, whose father dyed fabrics purple, challenged Athena to a weaving contest. Her tapestry depicted the gods' love affairs, so offending Athena that she tore the fabric, causing the woman to hang herself. Identify this woman, whom Athena saved by transforming her into a spider.

ARACHNE [uh-RACK-nee]

LA-3 This word is "the association...that a word usually elicits for most speakers of a language, as distinguished from those elicited for any individual speaker because of personal experience." It does not depend on cultural or symbolic interpretations, but instead relies on a word's literal meanings. Give the term for a word's dictionary definition, the counterpart of "connotation."

DENOTATION

SC-4 While this organism has gills and scales, it is not a fish. Some varieties--such as the White Button--are edible, while some, like the False Morel group, are poisonous. What are these spore-bearing fungi that are sometimes found growing wild in yards on moist days?

MUSHROOM

M-5 The ratio of girls to boys in a science class is 4 to 3. If there are 16 girls in the class, how many total students are in the science class?

28 (STUDENTS)