

SAMPLE TEST, FORM B

PART 1 — VERBAL

Suggested Time — 75 Minutes

45 QUESTIONS

SCRAMBLED PARAGRAPHS

PARAGRAPHS 1-5

DIRECTIONS: In this section, arrange each group of sentences to create the best paragraph. The first sentence for each paragraph is given; the remaining five sentences are listed in random order. Choose the order for these five sentences that will create the **best** paragraph, one that is well-organized, logical, and grammatically correct. Each correctly ordered paragraph is worth **double** the value of a question in any other section of the test. No credit will be given for responses that are only partially correct.

To keep track of your sentence order, use the blanks to the left of the sentences. For example, write “2” next to the sentence you think follows the first sentence, write “3” next to the sentence you think follows “2,” and so on. You may change these numbers if you decide on a different order. When you are satisfied with your sentence order, mark your choices on your answer sheet.

Paragraph 1

In many cultures, a baby’s first steps are an occasion to be remembered.

- _____ Q. In traditional Indian families, however, those first steps are celebrated as a ceremonial event.
- _____ R. When a child is ready to begin walking, the parents fit it with specially designed ankle bracelets, adorned with gently ringing bells.
- _____ S. Some of these carts are intricately decorated to resemble the chariot of Krishna, another important Hindu deity.
- _____ T. The sound of these bells mimics the footsteps of the legendary child Rama, a major Hindu deity.
- _____ U. In addition, the child may be given a handcrafted walker or pushcart to provide support for its first steps.

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Paragraph 2

The Midwestern plains of the United States experience more tornadoes than any other part of the country.

- _____ **Q.** This funnel is a rotating column of air, with a speed approaching 300 miles an hour.
- _____ **R.** Still, though tornadoes can be powerful and destructive, each one lasts only a few minutes and then disappears.
- _____ **S.** The fastest tornado wind speed ever recorded was 318 miles per hour, measured by a Doppler on Wheels radar in Oklahoma City in 1999.
- _____ **T.** It is here, meteorologists have observed, that the unsettled weather conditions during the spring months are nearly perfect for tornado formation.
- _____ **U.** When cold dry air from Canada passes over the Rocky Mountains and collides with warm moist air from the Gulf of Mexico, the resulting disturbance may form a violent funnel cloud.

Paragraph 3

The giant panda, a native of the remote mountainous regions of China, is a most unusual bear species.

- _____ **Q.** The panda, on the other hand, subsists almost entirely on tender bamboo shoots.
- _____ **R.** The panda's paw is quite different; it has an overdeveloped bone jutting out like a thumb below its five other claws.
- _____ **S.** Most other bear species also have paws that are designed for running, stabbing, and scratching.
- _____ **T.** For example, most other bears are hunters and gatherers that prey on smaller animals and forage for roots and berries.
- _____ **U.** It is this thumb-like structure that permits the panda to grip bamboo shoots and strip them of their leaves.

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MATERIALS & PREP

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LOGICAL REASONING

QUESTIONS 11-20

DIRECTIONS: Read the information given and choose the **best** answer to each question. Base your answer **only on the information given**.

In a logical reasoning test, certain words must be read with caution. For example, “The red house is **between** the yellow and blue houses” does not necessarily mean “The red house is **between and next to** the yellow and blue houses”; one or more other houses may separate the red house from the yellow house or from the blue house. This precaution also applies to words such as **above, below, before, after, ahead of, and behind**.

11. Five students are standing in a line according to their heights, from tallest to shortest.

- 1) Lisa is taller than Mickey, but shorter than Fernando.
- 2) Mickey is shorter than Noah, but taller than Jodi.
- 3) Noah is shorter than Fernando.

In which position is Noah?

- A. first
- B. second
- C. third
- D. fourth
- E. Cannot be determined from the information given.

12. A person walking along a wooded path will pass five different trees.

- 1) The last tree is an elm.
- 2) The second tree is a maple.
- 3) The hickory tree is after the maple, but before the aspen.
- 4) One tree is an oak.

In which position is the aspen?

- F. second
- G. third
- H. fourth
- J. fifth
- K. Cannot be determined from the information given.

13. There are two cars in the driveway.

- 1) One car is a convertible, the other is a sedan.
- 2) The convertible is driven only on Sundays.
- 3) One car runs on diesel fuel.
- 4) One car is driven only on Mondays and has a scratch on the door.
- 5) The car that does not have a scratch on the door runs on diesel fuel.

Based only on the information above, which of the following **must** be true?

- A. The sedan runs on diesel fuel.
- B. The sedan is driven on Sundays.
- C. The convertible has a scratch on the door.
- D. The convertible runs on diesel fuel.
- E. The sedan is not driven on Mondays.

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14. John will not go to the party if Sarah goes.
Sarah will go to the party if Peter's mother comes home in time.

Based only on the information above, which of the following **must** be true?

- F. If Peter's mother comes home in time, then John will not go to the party.
- G. If John does not go to the party, then Sarah will go.
- H. If Peter's mother does not come home in time, Sarah will not go to the party.
- J. Sarah will not go to the party unless John goes.
- K. If John goes to the party, then Peter will go.

Questions 15 and 16 refer to the following information.

In the code below, (1) each letter always represents the same word, (2) each word is represented by only one letter, and (3) in any given sentence, the letters may or may not be presented in the same order as the words.

M O R T Y means
"John walked home by himself."

X N M Q R means
"Sally walked home with friends."

M Z R X N means
"Manuel walked home with friends."

Q M X R P means
"Ahmal walked home with Sally."

15. Which letter represents the word "Manuel"?

- A. R
- B. M
- C. X
- D. Z
- E. Cannot be determined from the information given.

16. Which word is represented by the letter X?

- F. friends
- G. with
- H. home
- J. Sally
- K. Cannot be determined from the information given.

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START SHSAT PREP

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MATERIALS & PREP

READING

QUESTIONS 21-50

DIRECTIONS: Read each passage below and answer the questions following it. Base your answers **only on information contained in the passage**. You may reread a passage if you need to. Mark the **best** answer for each question.

Sir Arthur Conan Doyle's detective, Sherlock Holmes, is one of the most popular fictional characters of all time. The four novels and 56 short stories in which he appears have been the subject of more than 12,000 books by other authors. Many of these latter books refer to "the game," an intellectual exercise in which the players assume that Holmes was a real person. An important part of the game is analyzing the settings, characters, and plots of the stories as though they were historical fact rather than fiction. Complicating the game is the fact that Conan Doyle himself cared little for consistency and accuracy. Narrated in the first person by Watson, Holmes's friend, Conan Doyle's stories are full of contradictory details.

For example, in one story Watson claims he was shot in the shoulder, while in another the wound is in the leg. Because the unwritten rules of the game require that his every word be considered true, many writers have come up with clever theories explaining this inconsistency. Some claim that one bullet struck Watson in the shoulder and then passed into his leg. Others suggest he may have suffered as many as three separate wounds over the course of seven years.

The game has become ever more complex. Most of the players like to pretend that Conan Doyle's role was simply one of finding and publishing Watson's manuscripts. For example, the actual manuscript of Conan Doyle's *The Adventure of the Second*

Stain contains about 1,200 words of handwriting known not to be his own. Actually, the handwriting is that of Conan Doyle's wife, but the players maintain that it is Watson's handwriting.

One scholar has even gone so far as to publish a guidebook that locates the real world counterparts to every place mentioned in the stories. This required some ingenuity, since many places are fictitious. Other game players have placed plaques in various locations to commemorate fictional events. Some recent participants have become so caught up in the search for realistic detail that they occasionally undermine the enjoyment of a story. True believers, however, take pleasure in imagining that Holmes is still living on Baker Street in nineteenth-century London.

21. Which of the following best tells what this passage is about?
- A. More than 12,000 books have been written about Sherlock Holmes.
 - B. Some people believe that Arthur Conan Doyle did not really write the Sherlock Holmes stories.
 - C. Some Sherlock Holmes readers enjoy pretending that Sherlock Holmes was a real person.
 - D. The Sherlock Holmes game has become more complex.
 - E. The Sherlock Holmes stories contain many contradictions.

22. If a new Sherlock Holmes story were discovered, what would be the most likely effect?
- F. Scholars would lose interest in the game.
 - G. More would be known about the life of Arthur Conan Doyle.
 - H. The issue of Watson's bullet wound would be settled.
 - J. Game players would integrate details from the new story into the game.
 - K. New players would be discouraged from participating in the game.
23. The passage suggests that, in order to play the game, a player must
- A. be able to create believable characters.
 - B. travel frequently around England.
 - C. understand Arthur Conan Doyle's intentions in writing the Sherlock Holmes stories.
 - D. be willing to pretend that Conan Doyle's fictional detective was real.
 - E. be able to locate all of the fictional locations in the Sherlock Holmes stories.
24. Which of the following does the passage give as an example of the inconsistencies in the Sherlock Holmes stories?
- F. the discovery that Watson was a real person, while Sherlock Holmes was not
 - G. Watson's bullet wounds
 - H. a manuscript with handwriting that is not Conan Doyle's
 - J. the fictional locations
 - K. the plaques commemorating fictional events
25. Which of the following would **not** be consistent with the rules of the game?
- A. trying to prove that Conan Doyle's wife actually wrote the stories
 - B. looking for fictional places mentioned in the stories
 - C. assuming that Sherlock Holmes was a real person
 - D. demonstrating that a story's plot actually occurred
 - E. suggesting that Watson actually wrote the stories
26. Which of the following would most likely be an activity of the game?
- F. discovering more about the relationship between Conan Doyle and his wife
 - G. trying to prove that Holmes's solutions to baffling cases were often incorrect
 - H. determining how many copies of the Sherlock Holmes short stories and novels have been sold
 - J. reading other detective stories written at the same time as the Sherlock Holmes stories
 - K. figuring out where Watson lived

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The legendary Bedouin tribes of Saudi Arabia, a country made wealthy by the oil industry, still live the nomadic life of desert herdsmen. A deeply religious people, the Bedouin (pronounced be'-doo-in) value the laws and customs handed down to them through many generations. Year in and year out their lives follow the simple, rigorous calendar of the desert. In autumn, a tribe's migration begins. Every few days, after its herds of camels and sheep have grazed and watered, the tribe moves to a new place. This cycle ends only in the severe heat of the following summer, when the herds are settled near a town to wait once again for autumn.

To people from other regions, the desert seems forbidding and lonely, but the Bedouin feel at home on its sands. They are skilled in recognizing subtle differences in the landscape and easily distinguish between different kinds of sand. Perhaps it is due to the desert's vastness that the Bedouin cherish family and community. They welcome visitors and are known for their willingness to share what they have. Large family groups often gather together in a tent to tell stories and discuss the details and events of each other's day.

The Bedouin are extremely skilled in tracking, and their talents are often in demand by the Saudi police. In one famous criminal case, a Bedouin elder was asked to examine the footprint left by a killer. A year later, while visiting a mosque, the elder recognized the culprit's footprint in the sand. The police soon arrested the unlucky murderer as he left the mosque.

The Bedouin's time-honored ways result from centuries of coping with their inhospitable environment. Occasionally they adopt new ways, but only when change helps them deal with the hardships of desert life. For example, they now use pickup trucks to move their belongings and families and to carry water, but they continue in their work as desert herdsmen. Bedouin

people often say they would not be Bedouin without sheep and camels to provide milk, meat, cloth, and hides.

27. Which of the following best tells what this passage is about?
 - A. the rhythms of desert life
 - B. storytellers of the desert
 - C. how to survive in the desert
 - D. legendary tracking ability of the Bedouin
 - E. the modern life of a nomadic people
28. When does the yearly migration of the Bedouin tribes begin?
 - F. in the severe heat of summer
 - G. after summer is over
 - H. when the tribe has finished doing business in town
 - J. when summer begins
 - K. when the Bedouin have enough water
29. According to the passage, the Bedouin have allowed certain modernizations when those changes
 - A. help them cope with their harsh existence.
 - B. are required by their religion.
 - C. will shorten the length of their migration.
 - D. do not replace something traditional.
 - E. make it possible to avoid desert travel.
30. Which of the following facts most clearly suggests that the Bedouin have shared some of the wealth of Saudi Arabia?
 - F. They spend their summers near a town.
 - G. They own herds of camels and sheep.
 - H. They are generous to visitors.
 - J. They own pickup trucks.
 - K. They travel wherever they wish.
31. Which of the following has had the **least** influence on the Bedouin lifestyle?
 - A. the desert
 - B. their herds
 - C. their religious beliefs
 - D. their nomadic travels
 - E. the oil industry

**TAP TO GET FULL SHSAT
MATERIALS & PREP**

Nearly all green plants on earth make their own food using sunlight, water, and nutrients drawn from the soil through their roots. One of the most important nutrients is nitrogen compounds, derived from decomposing organic matter. However, some plants live in wet, marshy areas where such compounds have been washed out of the soil. Without them, these plants could not produce their own food and would quickly die.

How do these plants survive? Some plant species have developed ways to trap small animals—usually fleas, flies, and spiders, but occasionally mice or frogs—whose bodies contain nitrogen compounds. Because they can digest living animals, these plants are called “carnivorous” plants, although none of them actually has a mouth or teeth. Instead, the trapped animals are digested by juices secreted by the leaves of the plants.

Most carnivorous plants use a “passive” trap, which means that they employ no moving parts to capture their prey. Passive trappers include the pitcher plant, the sundew, and the butterwort. Pitcher plants are so called because their leaves curl to form a pitcher or hollow reservoir in which rain-water collects. Many are brightly colored to lure insects inside the pitcher to sip nectar. The walls of the reservoir are slippery, and eventually the insect slips into the pool of water and drowns. The leaves of the sundew and the butterwort are also covered with sticky, sweet nectar. Once an insect alights on a leaf, the nectar acts as flypaper, holding the insect fast as the leaves secrete their digestive juices.

The best-known “active” trapper species is the Venus flytrap, native to the swamps of North and South Carolina. Its leaves are brightly colored and produce a sweet-smelling nectar. Each leaf consists of two lobes joined by a hinge, like a clamshell, and each lobe is edged with stiff bristles called cilia. Inside each lobe are three

trigger hairs. When the trigger hairs are brushed by an insect, the bristles come together to form the bars of a cage, and the insect is trapped. Within about ten days the insect becomes a nitrogen-rich soup of nutrients that is absorbed by the plant. Then the trap opens again, ready to attract its next victim. One flytrap may capture and digest three “meals” per month.

Perhaps the most unusual active trapper is an aquatic plant called the bladderwort. The bladderwort floats below the surface of the water and extends a network of leaves, which are like little airbags or bladders only half a centimeter long. Like the leaves of a Venus flytrap, the bladders are equipped with trigger hairs at the opening of a trapdoor that opens in only one direction—inward. While awaiting its prey, the bladder lies limp and empty. When an insect larva or other small organism brushes the trigger hairs, the trapdoor springs open, allowing water to rush in. The prey is sucked inside, the trapdoor closes, and the bladderwort obtains the nutrients it needs to survive.

33. Which of the following best tells what this passage is about?
- A. the adaptations that carnivorous plants have made to get nutrients
 - B. the superiority of the bladderwort over other carnivorous plants
 - C. the kinds of environments in which carnivorous plants thrive
 - D. the similarities between carnivorous animals and carnivorous plants
 - E. the importance of nitrogen to green plants

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34. What does the passage suggest about carnivorous plants?
- F. They feed exclusively on insects.
 - G. They live longer than other green plants.
 - H. They are unable to absorb nitrogen compounds.
 - J. They are found only in the southern United States.
 - K. They grow in wet, swampy areas and marshes.
35. Which of the following phrases conveys the same or most nearly the same meaning as the word “fast” in line 38?
- A. firmly
 - B. rapidly
 - C. crushingly
 - D. helplessly
 - E. unexpectedly
36. Which of the following is **not** used by carnivorous plants to trap and hold prey?
- F. sticky liquid
 - G. mouth with teeth
 - H. suction
 - J. hinged leaves that fold together
 - K. a pool of water
37. Why are the plants in the passage called carnivorous?
- A. They have mouths with teeth.
 - B. They are attractive to insects and small animals.
 - C. They capture and digest live insects and small animals.
 - D. They have stomachs and digestive fluids.
 - E. They digest other plants.

38. Why is a victim unable to escape from the bladderwort after it is sucked into the bladder?
- F. The sticky nectar keeps it stuck inside.
 - G. It is trapped between the two lobes of the bladder.
 - H. It is entangled in the cilia.
 - J. The trigger hairs come together to form the bars of a cage.
 - K. The trapdoor opens only inward.

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START SHSAT PREP

Sometimes in nature, a plant or animal depends on another species for its survival. Once in a while, the existence of a single species is crucial to the survival of a large number of other life forms. An excellent example of such a species is the sea otter, a carnivorous marine mammal that lives in the rich kelp forests (dense areas of seaweed) in the coastal waters of the Pacific Ocean.

Sea otters have long been hunted for their valuable and beautiful fur. Before the governments of the United States and several other countries enacted laws banning their slaughter early in the twentieth century, the sea otter's numbers were dangerously low. Though they presently occupy only a fraction of their original habitat range, sea otters are thriving again. Today, they are often seen in California coastal waters in a characteristic pose: floating happily on their backs while eating a seemingly endless supply of seafood.

The sea otter seldom visits land, except to escape severe wind and waves or to give birth to young. It is quite at home in the kelp forest, which provides protective cover from enemies (including sharks and killer whales) and serves as an abundant source of its favorite seafoods. A sea otter may consume as much as twenty pounds of shellfish a day, feasting on mollusks, abalone, crabs, and its favorite treat—sea urchins.

The sea otter's eating habits are good news for the other inhabitants of its environment. Another big eater, the sea urchin, lives on a diet of kelp and seaweed. In some areas, uncontrolled sea urchin growth has devastated kelp forests. When sea urchin populations are held in check, and water pollution or shoreline development do not interfere, kelp forests generally thrive. Many varieties of fish and shellfish live in these seaweed forests, attracting still more animal species to nearby shores. For example, the survival of bald eagles and harbor

seals depends on the availability of such marine life. Had the hunting of sea otters continued unabated into the twentieth century, the damage to this interdependent coastal community would have been much more far-reaching than the loss of an individual species.

39. Which of the following best tells what this passage is about?
- A. the sea otter's key role in kelp forests
 - B. why sea urchins are a threat to the ecology of the Pacific
 - C. how the sea otter was saved from extinction
 - D. the origin of kelp forests
 - E. the ecology of the Pacific Coast
40. Why do sea otters leave the water?
- F. to sleep
 - G. to find food
 - H. to elude violent storms
 - J. to escape from predators
 - K. to avoid water pollution
41. Which of the following, if it were to occur, could be caused in part by sea otters' actions?
- A. too much commercial fishing in coastal waters
 - B. a sharp decrease in shellfish populations
 - C. the devastation of kelp forests
 - D. the extinction of killer whales
 - E. the loss of bald eagle nesting areas
42. The passage implies that laws were passed banning the slaughter of sea otters because
- F. sea otters were being hunted only for pleasure.
 - G. other forms of coastal marine life were in decline.
 - H. sea otters were in danger of becoming extinct.
 - J. sea otters were crucial for kelp forests to thrive.
 - K. many people find sea otters very cute.

43. Which of the following situations is most like the one involving sea otters and sea urchins as it is presented in the passage?
- A. Parasites are removed from the digestive system of a mammal and the mammal dies.
 - B. Human beings increase their use of pesticides and the populations of many bird species decrease.
 - C. Acid rain, an industrial pollutant, causes dramatic changes in many forest ecosystems.
 - D. Koala bear populations survive only if the bears obtain sufficient quantities of eucalyptus leaves.
 - E. An area's wolf population disappears and the deer population increases dramatically.
44. Which of the following has **not** represented a threat to sea otter populations?
- F. water pollution
 - G. shoreline development
 - H. fur hunters
 - J. sharks
 - K. harbor seals

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If you look around most preschool classrooms, you'll notice some common elements: rows of beads to count; wooden blocks and textured objects to touch; and furniture made to the scale of a small child. All of these familiar objects reflect the deep influence of Maria Montessori and her theory of education.

Born in 1870 in the Italian village of Chiaravalle, Maria moved to Rome with her family when she was five years old. Her mother encouraged her to pursue broader schooling than most girls received at the time. Maria began attending a boys' technical school at age 13, against her father's wishes but with her mother's support. She spent seven years studying engineering—and developing ideas about what a school should **not** be like. Although she was a good student, she felt stifled by the strictness, formality, and emphasis on learning by memorizing.

Eventually Montessori enrolled as a medical student at the University of Rome. In 1896 she graduated as the first female doctor in Italy. The following year, she joined the staff at a hospital for children with developmental disabilities. As she observed her patients, Montessori realized that many belonged in school, not in a hospital. Though not trained as a teacher, she wanted to find ways to educate these children.

Montessori drew ideas from anthropology, psychology, and medicine to develop her educational methods. She believed that children's personalities form as children interact with their environment. Everything they experience, she thought, becomes part of them. Montessori believed that the classroom environment was part of education. She was the first educator to provide child-size chairs and tables.

She also believed that education is a natural process that each student conducts in his or her own way. Teachers can help the process, but they should not attempt to

direct it or change it. Children were given the freedom to learn in their own way, while at the same time required to follow classroom rules. In contrast to the commonly held view that children should be “seen and not heard,” Montessori's teachers allowed their students to discover knowledge without interference.

In 1900, Montessori put her ideas into practice by opening a small school for children with developmental disabilities. The results were remarkable. Although her students were thought to lack ability, they learned to read, write, and participate in classroom activities. In 1907, Montessori founded a school for preschool children in one of Rome's poorest neighborhoods. Most of the children were shy and fearful or unruly and wild, but all responded quickly to Montessori's methods. Her students' success made Montessori famous, and she traveled the world to spread her ideas, revolutionizing education everywhere she went.

Montessori had her critics as well as her admirers. Some claimed that her methods placed too much emphasis on hands-on learning instead of intellectual development. Others questioned whether young children could achieve their own education without the structure and knowledge that a good teacher can provide. But educators agree that Maria Montessori recognized the universal characteristics that all children share, and she taught the world that each child is unique, admirable, and worthy of respect.

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START SHSAT PREP

45. Which of the following best tells what this passage is about?
- A. how anthropology, psychology, and medicine can help children learn
 - B. the history of children's education in Italy
 - C. an important educator and the ideas she promoted
 - D. the universal characteristics that children share
 - E. how attitudes toward educating girls have changed
46. Maria Montessori believed that children's personalities form
- F. through formality and strict discipline.
 - G. as a result of interaction with their surroundings.
 - H. when children spend time in schools instead of hospitals.
 - J. when children's intelligence and ability are high enough.
 - K. after age six.
47. In 1907, Montessori established a school for
- A. children with developmental disabilities.
 - B. boys who were studying engineering.
 - C. children who lived in Chiaravalle.
 - D. young children in a poor neighborhood.
 - E. teachers who wanted to learn the Montessori method.
48. The author includes information about Montessori's childhood to demonstrate that
- F. she had a good relationship with both of her parents.
 - G. she was never diagnosed with a developmental disability.
 - H. becoming an educator had always been one of her goals.
 - J. education was of primary importance throughout her life.
 - K. her interest in engineering had influenced her career.
49. What is the most likely reason that the author began the passage by describing familiar objects found in preschool classrooms?
- A. to demonstrate how Montessori's method has shaped preschool education
 - B. to argue that the Montessori method does not live up to its claims
 - C. to illustrate the influence of Montessori's own schooling
 - D. to give an example of what a school should **not** be like
 - E. to show that students cannot learn without a teacher
50. How were Maria Montessori and her mother alike?
- F. Both attended technical school to study engineering.
 - G. Both supported her father's wishes for her educational goals.
 - H. Both believed that girls should have access to the educational system.
 - J. Both held that a child's personality was formed through interaction with his or her surroundings.
 - K. Both believed that classrooms should be less strict and formal.

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PART 2 — MATHEMATICS

Suggested Time — 75 Minutes

50 QUESTIONS

GENERAL INSTRUCTIONS

Solve each problem. Select the **best** answer from the choices given. Mark the letter of your answer on the answer sheet. You can do your figuring in the test booklet or on paper provided by the proctor. **DO NOT MAKE ANY MARKS ON YOUR ANSWER SHEET OTHER THAN FILLING IN YOUR ANSWER CHOICES.**

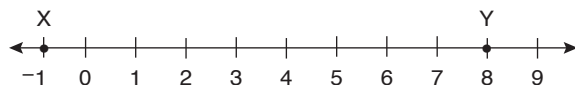
IMPORTANT NOTES:

- (1) Formulas and definitions of mathematical terms and symbols are **not** provided.
- (2) Diagrams other than graphs are **not** necessarily drawn to scale. Do not assume any relationship in a diagram unless it is specifically stated or can be figured out from the information given.
- (3) Assume that a diagram is in one plane unless the problem specifically states that it is not.
- (4) Graphs are drawn to scale. Unless stated otherwise, you can assume relationships according to appearance. For example, (on a graph) lines that appear to be parallel can be assumed to be parallel; likewise for concurrent lines, straight lines, collinear points, right angles, etc.
- (5) Reduce all fractions to lowest terms.

51. M is 20% of N , and N is 5% of 1,000. What is the value of M ?

A. 10
B. 40
C. 100
D. 250
E. 1,000

52.



If \overline{XY} is divided into 3 equal parts by points R and S (not shown), what position will point R fall on? (Assume $R < S$.)

F. 2
G. 2.5
H. 3
J. 4
K. 6

53. Convert $\frac{5}{16}$ to decimal form.

A. 0.31
B. 0.31125
C. 0.312
D. 0.3125
E. 5.16

54. If n is positive and $n^2 = 51$, between which two numbers does n lie?

F. 5 and 6
G. 6 and 7
H. 7 and 8
J. 8 and 9
K. 9 and 10

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START SHSAT PREP

55. SIT-UPS IN GYM CLASS

Sit-ups	Number of Students
20	5
21	3
25	2
27	2

The table above shows the number of sit-ups completed by 12 students in gym class. What is the mean number of sit-ups completed?

- A. 22.25
- B. 23
- C. 23.25
- D. 27
- E. 93

56. What is the **greatest** prime number less than 40?

- F. 31
- G. 37
- H. 38
- J. 39
- K. 41

57. $2x(3y + 1) =$

- A. $3y + 2x$
- B. $5xy + 2x$
- C. $6xy + 1$
- D. $5xy + 2x + 1$
- E. $6xy + 2x$

58. What is the **least** integer greater than $\frac{27}{4}$?

- F. 5
- G. 6
- H. 7
- J. 8
- K. 9

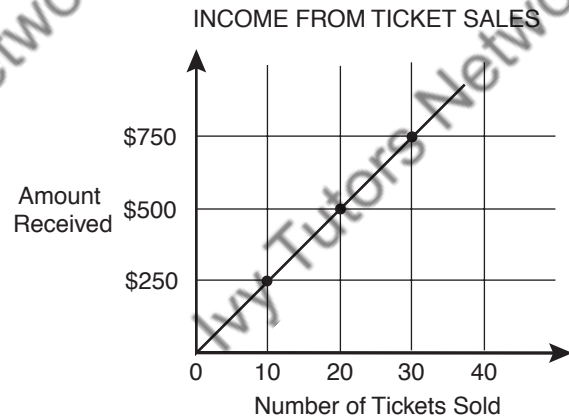
59. P is a point that is not on line m . How many lines can be drawn through P that form a 30° angle with line m ?

- A. 0
- B. 1
- C. 2
- D. 3
- E. The number varies.

60. At 7:00 a.m., the temperature was 12° **below zero** Fahrenheit. Then the temperature rose 3° per hour for 9 hours. What was the temperature at 2:00 p.m.?

- F. 21°
- G. 9°
- H. 6°
- J. 3°
- K. -6°

- 61.



The graph above shows the relationship between the number of tickets sold and the amount of money received from the sale. What is the price of one ticket?

- A. \$20.00
- B. \$25.00
- C. \$25.50
- D. \$50.00
- E. \$250.00

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70. One-half the sum of two numbers is 9. If one of the numbers is 5, what is the product of the two numbers?

F. 45
G. 65
H. 85
J. 105
K. 115

71. There are 10,000 fish in a pond. Of 50 fish caught in a net, 35 are female and 15 are male. Which is the best estimate of the number of male fish in the pond before the 50 fish were caught?

A. 750
B. 1,500
C. 3,000
D. 3,500
E. 7,000

72. The area of a rectangular rug is 70 square feet. If the width is 5 feet, what is the perimeter?

F. 14 ft
G. 19 ft
H. 38 ft
J. 150 ft
K. 350 ft

73. Mei-Ling has paints in 4 different colors. If she is going to paint the inside of a box with one color and the outside of the box with another color, in how many different ways can she paint the box?

A. 2
B. 4
C. 6
D. 8
E. 12

74. If $\hat{x} = \frac{1}{x}$, what is the value of $3 \cdot \hat{3}$?

F. $\frac{1}{9}$
G. $\frac{1}{3}$
H. 1
J. 3
K. 9

75. What is the value of $(x + y)(y - x)$ when $x = 5.5$ and $y = 4.5$?

A. -10
B. 0
C. 9
D. 10
E. 11

76. Lindsey is now x years old and Xiu Dan is 2 years older than Lindsey. In terms of x , how old was Xiu Dan 3 years ago?

F. x
G. $x - 1$
H. $x - 3$
J. $x - 5$
K. $2x - 3$

77. A cylindrical soup can is 4 inches tall and has a radius of $1\frac{1}{2}$ inches. What is the area of a label that will completely cover the side of the can, with no overlap (not including the top and bottom)?

A. 6 sq in.
B. 12 sq in.
C. 16 sq in.
D. 6π sq in.
E. 12π sq in.

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78. $R = 3 \cdot 3 \cdot 7 \cdot 11$
 $S = 3 \cdot 5 \cdot 7 \cdot 7$

What is the least common multiple of R and S?

- F. $3 \cdot 5$
- G. $3 \cdot 7$
- H. $3 \cdot 5 \cdot 7 \cdot 11$
- J. $3 \cdot 3 \cdot 5 \cdot 7 \cdot 7 \cdot 11$
- K. $3 \cdot 3 \cdot 3 \cdot 5 \cdot 7 \cdot 7 \cdot 7 \cdot 11$

79. In a scale diagram, 1 inch represents 100 feet. How many square inches on the diagram represent 1 square foot?

- A. 0.000001 sq in.
- B. 0.0001 sq in.
- C. 0.01 sq in.
- D. 0.1 sq in.
- E. 100 sq in.

80. Nadia put 23 coins (nickels, dimes, and pennies) with a total value of \$1.22 into a jar. She removed seven dimes, seven nickels, and seven pennies. Which coins remain in the jar?

- F. 2 pennies
- G. 2 nickels
- H. 2 dimes
- J. 1 nickel and 1 penny
- K. 1 dime and 1 penny

81. x , y , and z are consecutive multiples of 5, counting from smallest to largest. What is $x + y$ in terms of z ?

- A. $z + 10$
- B. $z + 15$
- C. $2z - 15$
- D. $2z + 5$
- E. $3z - 5$

82. A sheet of cardboard measuring 12 inches by 54 inches is to be cut into squares with equal sides. What is the **largest** possible size of the squares if they are all to be equal, without any waste?

- F. 3 in. by 3 in.
- G. 4 in. by 4 in.
- H. 6 in. by 6 in.
- J. 12 in. by 12 in.
- K. 54 in. by 54 in.

83. A pyramid has a square base. Its volume is 48 cubic centimeters and its height is 4 centimeters. What is the length of one side of the base?

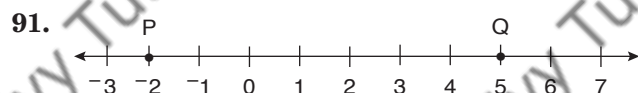
- A. 2 cm
- B. 6 cm
- C. 12 cm
- D. 36 cm
- E. 144 cm

84. What fraction, reduced to its lowest terms, is halfway between $\frac{4}{5}$ and 0.9?

- F. $\frac{1}{2}$
- G. $\frac{2}{3}$
- H. $\frac{17}{20}$
- J. $\frac{6}{7}$
- K. $4\frac{1}{2}$

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Point R (not shown) is located on line segment \overline{PQ} so that \overline{PR} is 6 times as long as \overline{RQ} . What is the location of point R?

- A. -1
- B. 2
- C. 3
- D. 4
- E. 6

92. Tamika's salary is \$26,000. Joe's salary is \$24,500. At the end of each year, Tamika is given a \$500 raise and Joe is given an \$800 raise. After how many years will Joe and Tamika be earning the same amount?

- F. 2
- G. 3
- H. 4
- J. 5
- K. 6

93. When n is divided by 5, the remainder is 2. What is the remainder when $n + 4$ is divided by 5?

- A. 1
- B. 2
- C. 3
- D. 4
- E. 6

94. From a box containing 5 black marbles, 8 pink marbles, 6 white marbles, and 5 yellow marbles, Ingrid removed 4 marbles, one of which was black. If she removes one more marble at random, what is the probability that it will be black?

- F. $\frac{1}{6}$
- G. $\frac{4}{21}$
- H. $\frac{1}{5}$
- J. $\frac{5}{21}$
- K. $\frac{1}{4}$

95. For how many values of n is $\frac{n-6}{6-n} > 0$? (Assume $n \neq 6$.)

- A. 0
- B. 1
- C. 2
- D. 3
- E. 5

96. In a list of numbers that starts with the number 13, every number is 14 less than twice the number that comes just before it. What will the fourth number in the list be?

- F. -2
- G. 4
- H. 6
- J. 9
- K. 10

97. One diagonal of a square lies on the y -axis of a coordinate system. The coordinates of one corner of the square are (3, 7). What are the coordinates of the opposite corner?

- A. (-3, 7)
- B. (7, 3)
- C. (3, -7)
- D. (-3, -7)
- E. (-7, -3)

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