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SSAT Middle Level Practice Test

Test 7

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WHAT'S INSIDE

Writing Sample	1 essay prompt
Verbal	60 questions
Quantitative	25 questions
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Quantitative	25 questions

Questions only. The answer key is not included. Work under timed conditions, then check any question you're unsure about with a step-by-step explanation.

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SECTION 1
WRITING THE ESSAY

Time: 25 minutes

Directions: Using two sheets of lined theme paper, plan and write an essay on the topic assigned below. DO NOT WRITE ON ANOTHER TOPIC. AN ESSAY ON ANOTHER TOPIC IS NOT ACCEPTABLE.

Topic: Which is more important, book knowledge or experience?

Directions: It has been said, "Not everything that is learned is contained in books." Compare and contrast knowledge gained from experience with knowledge gained from books. In your opinion, which source is more important? Why?

GO ON TO THE NEXT SECTION

SECTION 2
VERBAL REASONING

Time: 20 minutes

60 Questions

Directions: This section is divided into two parts that contain different types of questions. As soon as you have completed Part One, answer the questions in Part Two. You may write in your test booklet. For each answer you select, fill in the corresponding circle on your answer document.

Part One

Directions: Each question in Part One is made up of a word in capital letters followed by four choices. Choose the one word that is most nearly the same in meaning as the word in capital letters.

Example	Answer
SWIFT: (A) clean (B) fancy (C) fast (D) quiet	(A) (B) ● (D)

1. HAPPY:
   (A) delighted
   (B) forthright
   (C) satisfied
   (D) scuttle
   (E) wild
2. FRACTION:
   (A) sect
   (B) share
   (C) slice
   (D) piece
   (E) splinter
3. GREAT:
   (A) hearth
   (B) renown
   (C) famous
   (D) immense
   (E) historical
4. TALENTED:
   (A) dramatic
   (B) artistic
   (C) musical
   (D) reputable
   (E) gifted
5. PSEUDONYM:
   (A) writer
   (B) penname
   (C) forgery
   (D) elephant
   (E) falsehood
6. ECCENTRIC:
   (A) earnest
   (B) unusual
   (C) truthful
   (D) prompt
   (E) trustworthy

7. PRISONER:
   (A) judge
   (B) contain
   (C) penal
   (D) justice
   (E) captive
8. LITTLE:
   (A) gladden
   (B) periphery
   (C) minute
   (D) multiple
   (E) confection
9. ROBUST:
   (A) healthy
   (B) florid
   (C) weak
   (D) contained
   (E) considerable
10. SPHERE:
   (A) radial
   (B) plane
   (C) horizon
   (D) balloon
   (E) orb
11. TUMULT:
   (A) blockage
   (B) annoyance
   (C) disagreement
   (D) commotion
   (E) insignificance
12. RETARD:
   (A) slow down
   (B) turn around
   (C) change position
   (D) see through
   (E) push apart
13. ANTIDOTE:
   (A) remedy
   (B) substitute
   (C) fantasy
   (D) decoration
   (E) award
14. SOLITARY:
   (A) careless
   (B) friendly
   (C) troubled
   (D) mindful
   (E) alone
15. CAMOUFLAGE:
   (A) emergency
   (B) amount
   (C) range
   (D) obstacle
   (E) disguise
16. EXPEL:
   (A) question
   (B) scold
   (C) cast out
   (D) finish off
   (E) teach
17. LUNGE:
   (A) startle
   (B) thrust
   (C) restore
   (D) pursue
   (E) turn
18. BREVITY:
   (A) imagination
   (B) conflict
   (C) shortness
   (D) ambition
   (E) consistency
19. MARVEL:
   (A) usurp
   (B) confuse
   (C) point
   (D) wonder
   (E) discard
20. CANDOR:
   (A) daring
   (B) perception
   (C) fatigue
   (D) honesty
   (E) majesty

21. POMPOUS:
(A) arranged
(B) colorful
(C) concerned
(D) pretentious
(E) flat

22. FATAL:
(A) social
(B) accidental
(C) painful
(D) lethal
(E) childish

23. FREQUENT:
(A) various
(B) habitual
(C) frail
(D) locomotive
(E) general

24. OSTENTATIOUS:
(A) repetitive
(B) flashy
(C) elongated
(D) confident
(E) prevalent

25. DEARTH:
(A) fear
(B) lack
(C) consumption
(D) approval
(E) mortality

26. BUFFET:
(A) place upon
(B) toss about
(C) serenade to
(D) send back
(E) start over

27. WAIVE:
(A) give up
(B) urge on
(C) ride on
(D) fold over
(E) climb under

28. INDUSTRY:
(A) phobia
(B) warehouse
(C) accusation
(D) element
(E) diligence

29. TREPIDATION:
(A) agriculture
(B) masterpiece
(C) acumen
(D) fear
(E) scarcity

30. CONDONE:
(A) give
(B) respect
(C) stifle
(D) elevate
(E) approve

Part Two

Directions: Each question below is made up of a sentence with one or two blanks. One blank indicates that one word is missing. Two blanks indicate that two words are missing. Each sentence is followed by four choices. Select the one word or pair of words that will best complete the meaning of the sentence as a whole.

Example	Answer
Ann carried the box carefully so that she would not _____ the pretty glasses.	(A) (B) (C) (D)

(A) break
(B) fix
(C) open
(D) stop

When our boat first crashed into the rocks we were _____, but we soon felt _____ when we realized that nobody was hurt.

●BCD

(A) afraid; relieved
(B) happy; confused
(C) sleepy; sad
(D) sorry; angry

31. Inveigle is to flattery as _____.
(A) browbeat is to intimidation
(B) reassure is to censure
(C) cajole is to criticism
(D) whine is to mourn
(E) cozen is to encouragement

32. Flammable is to inflammable as _____.
(A) opportune is to inopportune
(B) truculent is to intrusion
(C) impartial is to disinterested
(D) relevant is to incoherent
(E) persistent is to important

33. Devotee is to fervid as _____.
(A) connoisseur is to discriminating
(B) pessimist is to sanguine
(C) sycophant is to caustic
(D) optimist is to persuade
(E) pundit is to apathetic

34. Mule is to stubborn as _____.
(A) elephant is to oblivious
(B) fox is to maladroit
(C) horse is to iconoclastic
(D) turkey is to gullible
(E) pig is to idleness

35. Extortionist is to blackmail as _____.
(A) clerk is to stock
(B) businessman is to profit
(C) criminal is to arrest
(D) kidnapper is to crime
(E) kleptomaniac is to steal

36. Virtuoso is to éclat as _____.
(A) klutz is to tact
(B) casual is to plan
(C) proselyte is to untruth
(D) harbinger is to conclusion
(E) gallant is to panache

37. Bilious is to queasy as _____.
(A) dangerous is to alarm
(B) ambivalent is to sleepy
(C) adroit is to able
(D) contumelious is to elated
(E) quizzical is to content

38. Disorganized is to form as _____.
(A) immediacy is to duration
(B) epical is to scope
(C) idolize is to confound
(D) empty is to substance
(E) ineffable is to size

39. Midget is to minuscule as _____.
(A) enigma is to original
(B) serious is to waggish
(C) colossus is to gargantuan
(D) dictum is to risible
(E) accomplished is to abortive

40. Prude is to fastidious as _____.
(A) witness is to truth
(B) puritan is to simple
(C) prodigy is to lackluster
(D) heathen is to adoration
(E) hedonist is to malcontent

41. Philanthropist is to generous as _____.
(A) iconoclast is to conformist
(B) rider is to horse
(C) teacher is to educated
(D) plagiarist is to robber
(E) dentist is to teeth

42. Exhale is to lung as _____.
(A) pump is to heart
(B) think is to brain
(C) exhume is to corpse
(D) taste is to tongue
(E) perspire is to skin

43. Nazis are to Nuremberg as _____.
(A) guard is to prison
(B) persecute is to prosecution
(C) judge is to jury
(D) gun is to death
(E) communist is to Marx

44. Politics are to bribe as _____.
(A) nesting is to leaving
(B) painting is to commission
(C) parking is to meter
(D) business is to contract
(E) examinations are to cheat

45. Fraud is to cheater as _____.
(A) castigation is to praise
(B) ignominy is to disloyalty
(C) infatuation is to love
(D) obsession is to interest
(E) impostor is to impersonator

46. Bacon is to pound as _____.
(A) dime is to silver
(B) ceiling is to chandelier
(C) puppet show is to puppet maker
(D) gun is to lead
(E) eggs are to dozen

47. Impeach is to dismiss as _____.
(A) imprison is to jail
(B) absent is to present
(C) accuse is to charge
(D) arraign is to convict
(E) plant is to sow

48. Limousine is to car as _____.
(A) stone is to pebble
(B) fur is to animal
(C) mansion is to house
(D) house is to cave
(E) railroad is to bus

49. Warts are to moles as mildew is to _____.
(A) grass
(B) weeds
(C) alcohol
(D) gold
(E) dirt

50. Bass is to soprano as _____.
(A) light is to shading
(B) low is to high
(C) chorus is to solo
(D) govern is to dictate
(E) art is to music

51. Throne is to monarch as _____.
(A) lobby is to doorman
(B) armchair is to general
(C) bench is to judge
(D) ship is to captain
(E) miter is to pope

52. Canal is to river as _____.
(A) mine is to cavern
(B) hammer is to mallet
(C) puddle is to lake
(D) telephone is to computer
(E) boat is to driftwood

53. Milk is to sour as bread is to _____.
(A) hot
(B) baked
(C) stale
(D) folded
(E) bent

54. Ore is to mine as _____.
(A) grain is to plow
(B) oil is to drill
(C) water is to purify
(D) batter is to stir
(E) apple is to peel

55. Weight is to scale as _____.
(A) length is to thermometer
(B) reading is to gauge
(C) altitude is to altimeter
(D) number is to slide rule
(E) distance is to speedometer

56. Porcupine is to quill as _____.
(A) horse is to tail
(B) skunk is to odor
(C) oyster is to pearl
(D) tiger is to stripe
(E) bat is to wing

57. Jar is to contain as pillar is to _____.
(A) ascend
(B) prepare
(C) stand
(D) swing
(E) support

58. Irrigate is to dry as _____.
(A) purify is to distasteful
(B) depend is to supportive
(C) ferment is to salty
(D) smooth is to coarse
(E) soften is to uneven

59. Electricity is to wire as _____.
(A) water is to aqueduct
(B) music is to instrument
(C) light is to bulb
(D) river is to bank
(E) sound is to radio

60. Contempt is to sneer as _____.
(A) anger is to laugh
(B) enjoyment is to groan
(C) shame is to shrug
(D) displeasure is to frown
(E) agreement is to grimace

GO ON TO THE NEXT SECTION

SECTION 3
QUANTITATIVE REASONING

Time: 35 minutes

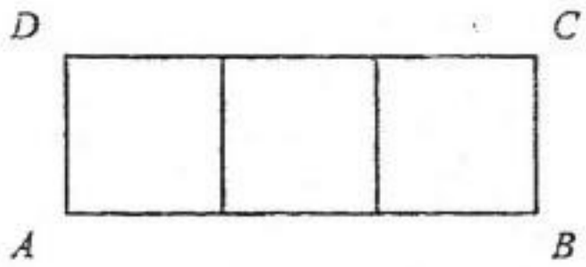
25 Questions

Directions: Any figures that accompany questions in this section may be assumed to be drawn as accurately as possible EXCEPT when it is stated that a particular figure is not drawn to scale. Letters such as x, y and n stand for real numbers.

Each question consists of a word problem followed by four answer choices. You may write in your test booklet; however, you may be able to solve many of these problems in your head. Next take a look at the four answer choices and select the best one.

Example	If $3 + x = 5$, what is the value of x?	Answer
	(A) 0 (B) 1 (C) 2 (D) 3	(A) (B) (C) (D)

1.



Three congruent squares are arranged in a row. If the perimeter of $ABCD$ is 40, the area of $ABCD$ is _____.

(A) 12

(B) 32

(C) 16

(D) 75

(E) 80

2. Express as a ratio in simplest form: 5 feet to 2 inches _____.

(A) $\frac{5}{2}$

(B) $\frac{2}{5}$

(C) $\frac{60}{2}$

(D) $\frac{1}{30}$

(E) $\frac{30}{1}$

3. What is the slope of the line that passes through the point (2, 6) and the point (7, −7)?

(A) $-\frac{13}{5}$

(B) $\frac{5}{13}$

(C) $-\frac{1}{5}$

(D) $\frac{13}{5}$

(E) $-\frac{21}{7}$

4. 423,252 × 835,234 = _____.

(A) 353,534,359,987

(B) 983,414,460,968

(C) 989,353,414,426

(D) 353,514,425,972

(E) 353,514,460,968

5. If points A, B, C, and D are collinear, and C is the midpoint of $\overline{AB}$, and B is the midpoint of $\overline{AD}$, and the length of $\overline{AD}$ is 12, what is the length of $\overline{CD}$?

(A) 6

(B) 12

(C) 9

(D) 3

(E) It cannot be determined.

6. If $x = 4$ on the graph of $y = -5x + 4$ what does y equal?

(A) -1

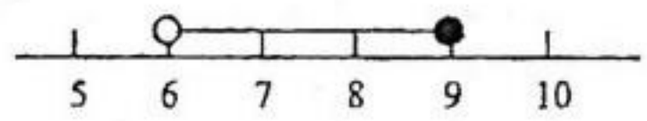
(B) 5

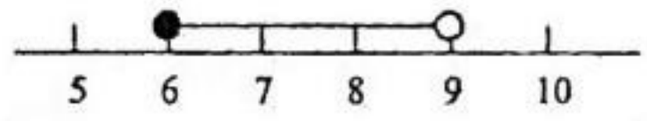
(C) -5

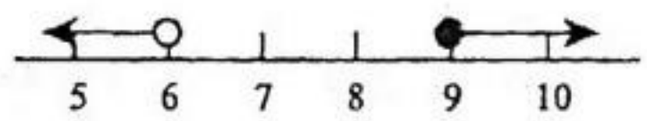
(D) 16

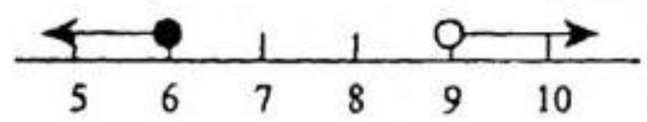
(E) -16

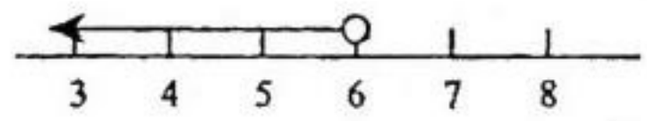
7. What is the graph of the inequality $6 < x \leqslant 9$?

(A)


(B)


(C)


(D)


(E)


8. What is $3x^5$ divided by $4x^7$?

(A) $7x^{12}$

(B) $12x^{12}$

(C) $\frac{3}{4x^2}$

(D) $12x^{35}$

(E) $\frac{4x^2}{3}$

9. Express 0.025 as a percent.

(A) 25%

(B) 2.5%

(C) 0.25%

(D) 0.025%

(E) 8%

10. A scale model of a cube has sides that are one fortieth of the length of the original. If the scale model required three gallons of paint to coat, how much paint is required to coat the original with the same thickness of paint?

(A) $\frac{40}{3}$ gallons

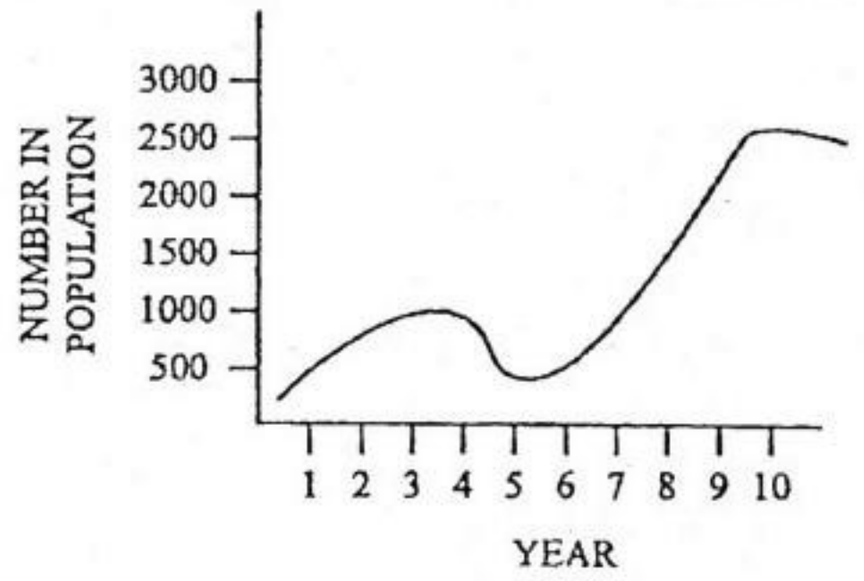
(B) 7,280 gallons

(C) 4,800 gallons

(D) 240 gallons

(E) 120 gallons

Questions 11-12 refer to the following graph.



11. During which years did the population increase at the fastest rate?

(A) Years 5 – 7

(B) Years 1 – 4

(C) Years 4 – 5

(D) Years 7 – 9

(E) Years 9 – 10

12. During which year did the size of the population decrease the most?

(A) Years 4 – 5

(B) Years 3 – 4

(C) Years 9 – 10

(D) Years 1 – 3

(E) Years 4 – 6

13. The number of telephones in Adelaide, Australia is 48,000. If this represents 12.8 telephones per 100 people, the population of Adelaide to the nearest thousand is _____.

(A) 128,000

(B) 375,000

(C) 378,000

(D) 556,000

(E) 575,000

14. One person can load a truck in 25 minutes, a second can load it in 50 minutes, and a

third can load it in 10 minutes. How long would it take the three together to load the truck?

(A) $5\frac{3}{11}$ minutes

(B) $6\frac{1}{4}$ minutes

(C) $8\frac{1}{3}$ minutes

(D) 10 minutes

(E) $28\frac{1}{3}$ minutes

15. Event A occurs every 4 minutes, event B every 6 minutes, and event C every 15 minutes. If they occur simultaneously at noon, when is the next time all three events will occur together again?

(A) 1 p.m.

(B) 1:30 p.m.

(C) 4 p.m.

(D) 6 p.m.

(E) 12 a.m.

16. If $n \neq 0$ and $r \neq 0$, $n \clubsuit r = (n - r) - \frac{n}{r}$ which of the following must be true?

Ⅰ. $n \clubsuit 1 = -1$

Ⅱ. $1 \clubsuit n = 0$

Ⅲ. $n \clubsuit n = r \clubsuit r$

(A) Ⅰ only

(B) Ⅱ only

(C) Ⅰ and Ⅱ only

(D) Ⅱ and Ⅲ only

(E) Ⅰ, Ⅱ and Ⅲ

17. Robert wants to leave a 15 percent tip for a dinner that costs $20.95. Which of the following is closest to the amount of tip he should leave?

(A) $2.70

(B) $3

(C) $3.15

(D) $3.50

(E) $3.75

18. Juan studied from 4:00 p.m. to 6:00 p.m. and finished one-third of his assignments. He is taking a break and wants to finish his homework by 10:30 p.m. If he plans to continue working at the same rate, what is the latest that he can return to his studies?

(A) 6:30 p.m.

(B) 7:00 p.m.

(C) 7:30 p.m.

(D) 8:00 p.m.

(E) 8:30 p.m.

19. Mrs. Brown and her z children each ate 3 peaches. What's the total number of peaches they ate?

(A) $z+1$

(B) $z+3$

(C) $3z$

(D) $3z+1$

(E) $3z+3$

20. Which figure can be drawn WITHOUT lifting the pencil or retracing?

(A) 

(B) 

(C) 

(D) 

(E) 

21. If 0.59 is about $\frac{N}{5}$, then N is closest to which of the following?

(A) 0.3

(B) 1

(C) 2

(D) 3

(E) 30

22. If the largest of 5 consecutive integers is 25, what is the average of the 5 integers?

(A) 24

(B) 22

(C) 21

(D) 23

(E) 16

23. The price of a box of raisins increase from \$ 0. 93 to \$ 1. 08. The increase in price is closest to what percent?

(A) 1%

(B) 14%

(C) 15%

(D) 16%

(E) 20%

24.

$$21\overline{)Q} \quad \text{(15)}$$

$$15\overline{)S} \quad \text{(21 remainder 6)}$$

In the division problems shown above. $S - Q =$ _____.

(A) 6

(B) 8

(C) 15

(D) 18

(E) 21

25. What is the least number of square tiles with side 8 cm needed to cover a rectangular floor 72 cm long and 48 cm wide?

(A) 14

(B) 72

(C) 54

(D) 144

(E) 192

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SECTION 4
READING COMPREHENSION

Time: 35 minutes

40 Questions

Directions: This section contains eight short reading passages. Each passage is followed by several questions based on its content. Answer the questions is following a passage on the basis of what is stated or implied in that passage. You may write in your test booklet.

Passage 1

I was flying from Los Angeles to Tucson, Arizona, to celebrate New Year's weekend with some friends. Because of the holiday and winter weather delays, the airport was crowded, and many flights were canceled or late. Boarding for my flight began at 1:15 p.m., the time originally scheduled for 1:15 p.m., the time originally scheduled for be in a hurry. As passengers boarded, the pilot announced on the public address system, "O.K., folks, we're cleared for departure at 1:35. If you'll all take your seats, we'll take off at that time." Cabin attendants guided people to their seats and helped them stow baggage. "Are we all okay?" a cabin attendant asked.

Across the aisle from where I sat, a woman said, "Where are my son and grandson? They're supposed to be on the plane with me. They came to the airport with me." She was an older woman with well-cut white hair. Her face, although lined, was carefully but not overly made up. She wore a stylish suit and small earrings. The attendant leaned over and spoke to her, and then made an announcement. "Passengers Stuart and John Miller, please let me know where you are seated." There was no reply. She repeated her announcement. Again, no one responded. She told Mrs. Miller that her son was not on the plane. "But they came with me," Mrs. Miller said. "They're supposed to be here."

The attendant went to the cockpit to Miller, she said, "Ma'am, I'm sorry. We need to have you deplane. I'm sure the airport personnel will be able to help you find your son." Then she guided Mrs. Miller to the exit.

The doors closed; the engines fired; the plane began to taxi. A passenger seated next to me said, "Oh, dear! That woman was wrong. Her son left her with airline personnel and told them to be sure to escort her onto the plane." My heart sank. Mrs. Miller probably suffered from confusion that sometimes affects older people. Someone, no doubt, would be waiting to meet her in Tucson. Clearly, that person would be worried. And what of Mrs. Miller? Her son and grandson had probably left the airport

by now. Would she remember their telephone number? And if she did, was it likely they had already arrived home? Who would care for Mrs. Miller in a crowded, busy airport where passengers were trying to locate flights to replace canceled ones, and
(30) airline personnel were concerned about sticking to a schedule? I thought I might weep.

1. As a result of bad weather, _____.
   (A) Mrs. Miller's son had not arrived home
   (B) flights were late or canceled
   (C) the flight attendant was rude to Mrs. Miller
   (D) Mrs. Miller was escorted onto the plane
   (E) passengers were in a hurry
2. The reader can infer the plane took off _____.
   (A) half an hour late
   (B) in the morning
   (C) in the early afternoon
   (D) at some unknown time
   (E) on time
3. The description of Mrs. Miller suggests that she _____.
   (A) loves her son and grandson
   (B) has a sense of humor
   (C) is a very wealthy woman
   (D) cares about her appearance
   (E) cannot take care of herself
4. The airline people asked Mrs. Miller to leave the plane because _____.
   (A) they wanted to help her find her son
   (B) they wanted to take off as soon as possible
   (C) other passengers were in a hurry
   (D) she didn't know her son's telephone number
   (E) she was confused
5. Which of the following word(s) describe the author of this passage?
   (A) Observant. (B) Compassionate. (C) Sensitive.
   (D) None of the above. (E) (A), (B) and (C).

Passage 2

The major intellectual change of the eighteenth century was the widespread acceptance among educated people of the idea that reason could achieve solutions to problems of many kinds, whether scientific or social. It is easy to see the origins of this attitude in the rationalism of Descartes, the scientific method of Francis Bacon, the

achievements of Newton and other seventeenth-century scientists, and the writing of John Locke on psychology.

The Enlightenment thinkers applied Newtonian methods to problems in such areas as psychology and education, government, religion, law codes, treatment of criminals, the slave trade, and economic life. They acted on the assumption that the universe operated according to natural law, similar to the all-embracing law of gravitation, which Newton had discovered. They believed that individuals, using a rational approach, could discover these natural laws. As in science, this would not necessarily be easy, for these laws had been obscured by an accumulation of centuries-old customs, prejudices, and superstitions, which did not accord with natural laws. However, with accord with natural laws. However, with people could rid themselves of their superstitions and prejudices. Then reform in many areas of human relations could bring laws and customs into a harmonious relationship in a naturally orderly universe.

What has just been said is a very broad eighteenth century had unquestioning faith in reason and natural law. There were limits to human reasoning powers, as some pointed out. Emotion, or feelings, also played a great part in governing human behavior. These thinkers were not in the majority, but they were read and respected.

The majority attitude described above was basically optimistic in the outlook toward life. It saw people as moving forward, making progress toward a better life (and even toward perfection) through use of reason. Some writers felt that use of reason. Some writers felt that circumstances. Others thought it was circumstances. Others thought it was use of reason was the answer to all problems were viewed as skeptics. The faith in progress caused eighteenth-century individuals to undertake many crusades for reform the elimination of slavery, the end of religious intolerance, the reform of criminal codes, and the guarantee of permanent world peace, for example.

6. Which of the following is NOT an element of "natural law"?
   (A) Reason.
   (B) The scientific method.
   (C) Rationalism.
   (D) Observation and discovery.
   (E) Superstition.
7. Someone who believes in "natural law" would suggest humans should NOT be guided by _____.
   (A) science
   (B) a sense of optimism
   (C) emotions
   (D) the wish for an orderly universe
   (E) intellect
8. The best meaning of "inevitable" is _____.
   (A) improbable (B) impossible (C) reasonable
   (D) necessary (E) rational

9. The best title for this passage is _____.

(A) "Ideas in the Age of Enlightenment"

(B) "Descartes, Bacon, and Locke"

(C) "Faith in Progress"

(D) "Reason Versus Emotion"

(E) "The Newtonian Age"

10. An "enlightened" approach to government would yield all of the following EXCEPT _____.

(A) totalitarianism (B) democracy (C) separation of powers

(D) the rule of law (E) a constitution

Passage 3

My father's family name being Pirrip, and my first being Philip, my infant tongue could make of both names nothing longer or more explicit than Pip. So, I called myself Pip, and came to be called Pip.

I give Pirrip as my father's family name, sister—Mrs. Joe Gargery, who married
(5) the blacksmith. As I never saw my father or my mother and never saw any likeness of either of them (for their days were long before the days of photographs), my first fancies regarding what they were like were unreasonably derived from their tombstones. The shape of the letters on my father's gave me an odd idea that he was a square, stout dark man, with curly black hair.

11. This passage was most probably written _____.

(A) last year

(B) about five years ago

(C) less than 25 years ago

(D) more than 100 years ago

(E) about 2,000 years ago

12. In the passage, the word "fancies" means _____.

(A) grown-up thoughts

(B) elaborate lettering

(C) hopes and dreams

(D) imagined ideas

(E) writing on tombstones

13. Pip never saw any pictures of his birth parents because _____.

(A) they died before cameras were invented

(B) he was adopted

(C) his sister prevented him from seeing their photographs

(D) he ran away from home

(E) they never wanted him to see any photographs of them

14. Pip's sister's name is _____.

(A) Mrs. Pip (B) Mrs. Pirrip (C) Mrs. Stout

(D) Mrs. Gargery (E) Mrs. Philip

15. Pip's sister's husband works as a _____.

(A) blacksmith (B) stonecutter (C) photographer

(D) barber (E) gravedigger

Passage 4

A third of our lives is spent in the mysterious state of sleep. Through-out our history, we have attempted to understand this remarkable experience. Many centuries ago, for example, sleep was regarded as a type of anemia of the brain. Alemaeon, a Greek scientist, believed that blood retreated into the veins, and the partially starved brain went to sleep. Plato supported the idea that the soul left the body during sleep, wandered the world, and woke up the body when it returned.

Recently, more scientific explanations of sleep have been proposed. According to one theory, the brain is put to sleep by a chemical agent that accumulates in the body when it is awake. Another theory is that weary branches of certain nerve cells break connections with neighboring cells. The flow of impulses required for staying awake is then disrupted. These more recent theories have had to be subjected to laboratory research.

Why do we sleep? Why do we dream? Modern sleep research is said to have begun in the 1950s, when Eugene Aserinsky, a graduate student at the University of Chicago, and Nathaniel Kleitman, his professor, observed periods of rapid eye movements (REMs) in sleeping subjects. When awakened during these REM periods, subjects almost always remembered dreaming. On the other hand, when awakened during non-REM phases of sleep, the subjects rarely could recall their dreams.

Guided by REMs, it became possible for investigators to "spot" dreaming from outside and then awaken the sleepers to collect dream stories. They could also alter the dreamers' experiences with noises, drugs, or other *stimuli* before or during sleep.

Since the mid-1950s, researchers have been drawn into sleep laboratories. There, bedrooms adjoin other rooms that contain recorders known as electroencephalograph (EEG) machines.

The EEG amplifies signals from sensors on the face, head, and other parts of the body, which together yield tracings of respiration, pulse, muscle tension, and changes of electrical potential in the brain that are sometimes called brain waves. These recordings supply clues to the changes of the sleeping person's activities.

16. The main purpose of this passage is to _____.

(A) compare modern scientific theories to early ideas about sleep

(B) point out the importance of REMs in human sleep

(C) describe early beliefs about sleep

(D) give a short history of human's interest in sleep

(E) describe modern research techniques

17. This passage implies that the importance of the research of Aserinsky and Kleitman was mainly in the _____.

(A) problems they attacked

(B) understandings they uncovered

(C) reports they published

(D) conclusions they drew for treatment of sleep disorders

(E) information they observed and recorded

18. All of the following were mentioned as possible causes of sleep EXCEPT _____.

(A) the departure of the soul from the body

(B) the absence of the conscious spirit

(C) exhausted nerve endings

(D) a build-up of certain body chemicals

(E) recurrent periods of rapid eye movement

19. In paragraph 4, the word *stimuli* means _____.

(A) comatose

(B) things that cause the body to react in a certain way

(C) substances that make a person more alert

(D) drugs

(E) sleep inducing

Passage 5

The dark and the sea are full of dangers to the fishermen of Norway. A whale may come and destroy the floating chain of corks that edge the nets, break it, and carry it off. Or a storm may come suddenly, unexpectedly, out of the night. The sea seems to turn somersaults. It opens and closes immense caverns with terrible clashes, chasing boats and men who must flee from their nets and the expected catch. Then the men may lift their nets as empty as they set them. At other times the herring may come in such masses that the lines break from the weight when lifted, and the men must return home empty-handed, without lines, nets, or the herring.

But often the nets are full of herring that shine and glisten like silver. Once in a while, a couple of men will venture in their boats along the net lines to see whether the herring are coming, and when the corks begin to bob and jerk, as if something were hitting the nets to which they are attached, then they know that the herring are there. The nets are being filled, and all the men sit in quiet excitement. They dare only to whisper to each other, afraid to disturb, and quite overcome by the overwhelming

(15) generosity of the sea. Eyes shine in happy anticipation; hands are folded in thanks. Then muscles strain with power. It is as though the strength of the body doubled. They can work day and night without a thought of weariness. They need neither food nor rest; the thought of success keeps their vigor up almost endlessly. They will take food and rest when it is all over.

20. The best title for this passage is _____.
    (A) "The Perils and Rewards of Fishing"
    (B) "Hard Work in Norway"
    (C) "The Generosity of the Sea"
    (D) "Whaling in Norway"
    (E) "Risky Business"
21. The fishermen's difficulties include _____.
    (A) an attack on the men by the herring
    (B) interference by rough seas
    (C) becalming
    (D) the eating of the herring by whales
    (E) the jerking of the corks
22. At the first indication that herring are entering the nets, the men _____.
    (A) glisten like silver
    (B) row quickly along the edge of the nets
    (C) collect the nets quickly
    (D) try not to frighten the fish away
    (E) strain every muscle to haul in the catch
23. Which quality of the sea is NOT mentioned?
    (A) Its power.
    (B) Its beauty.
    (C) Its destroying strength.
    (D) Its sudden changes.
    (E) Its generosity.
24. The fishermen are described as _____.
    (A) angry, weary, and sickly
    (B) strong, angry, and reckless
    (C) skillful, impatient, and weary
    (D) hardworking, surly, and excitable
    (E) patient, brave, and cautious
25. Which is NOT mentioned as a problem to fishermen?
    (A) Rough seas.
    (B) Unexpected storms.
    (C) Too large a catch.

(D) Theft of the nets by other fishermen.

(E) Destruction of the nets.

Passage 6

More than 1,500 Native American languages have thus far been discovered by linguists. Edward Sapir, a pioneer in the field of Native American linguistics, grouped these languages into six "families" more than three-quarters of a century ago.

Ever since that time, the classification of Native American languages has been a source of controversy. A small group of linguists has recently argued that all Native American languages fit into three linguistic families. These scholars believe that similarities and differences among words and sounds leave no doubt about the validity of their classification scheme. The vast majority of linguists, however, reject both the methods and conclusions of these scholars, arguing that linguistic science has not yet advanced far enough to be able to group Native American languages into a few families. According to these scholars, Native American languages have diverged to such an extent over the centuries that it may never be possible to group them in distinct language families.

26. This passage is primarily about _____.

(A) the six families of Native American languages

(B) the similarities and differences between words of Native American languages

(C) linguistic debates about how to group languages

(D) scholars' views about language

(E) the classification of Native American languages

27. The scholars who believe that Native American languages can be classified into three families apparently believe that _____.

(A) languages are all related by their common origins

(B) linguistic science has not advanced far enough to safely classify languages so narrowly

(C) languages can be classified according to the degree of similarities and differences between words

(D) distinct language families have their own peculiar grammatical rules

(E) these languages have diverged significantly over the last 75 years

28. The style of the passage is most like that found in a _____.

(A) novel about Native American tribes

(B) diary of a linguist

(C) biography of Edward Sapir

(D) textbook about linguistics

(E) personal letter written by a linguistics student

29. It can be inferred that the classification of Native American languages has been a source of controversy because _____.

(A) there is not enough known about Native American vocabulary

(B) linguistics is a very new field

(C) languages have split in several directions

(D) Native Americans dislike such classifications

(E) scholars do not agree on the method for classifying languages

30. Which of the following questions is answered by the passage?

(A) In what ways have Native American languages changed over time?

(B) How many Native American languages are yet to discovered?

(C) Into how many families did Edward Sapir classify Native American languages?

(D) How many languages are in a typical linguistic family?

(E) Did Edward Sapir study languages other than Native American languages?

31. As used in the passage, "extent" most nearly means _____.

(A) time (B) duration (C) language

(D) range (E) limit

Passage 7

Almost everyone enjoys hearing some kind of live music. But few of us realize the complex process that goes into designing the acoustics of concert and lecture halls. In the design of any building where audibility of sound is a major consideration, architects have to carefully match the space and materials they use to the intended purpose of the venue. One problem is that the intensity of sound may build too quickly in an enclosed space. Another problem is that only part of the sound we hear in any large room or auditorium comes directly from the source. Much of it reaches us a fraction of a second later after it has been reflected off the walls, ceiling, and floor as reverberated sound. How much each room reverberates depends upon both its size, and the ability of its contents to absorb sound. Too little reverberation can make music sound thin and weak; too much can blur the listener's sense of where one note stops and the next begins.

Consequently, the most important factor in acoustic design is the time it takes for these reverberations to die down altogether, called the reverberation time.

32. Which of the following is the main topic of this passage?

(A) The experience of hearing live music.

(B) The challenges of an architect's job.

(C) The differences between speech and music.

(D) The construction of large buildings.

(E) The role of reverberation in acoustic design.

33. The passage suggests that the "complex process" of acoustic design is _____.

(A) most difficult in concert hall construction

(B) not widely appreciated by the public

(C) really a matter of listener sensitivity

(D) wholly dependent on the choice of construction materials

(E) an engineer's problem, not an architect's

34. According to the passage, audibility of sound is influenced by which of the following factors?

Ⅰ. The type of materials used to construct a building.

Ⅱ. The reflection of sound off a room's ceil-hag or walls.

Ⅲ. The size and purpose of a particular room or space.

(A) Ⅰ only

(B) Ⅱ only

(C) Ⅰ and Ⅱ only

(D) Ⅱ and Ⅲ only

(E) Ⅰ, Ⅱ and Ⅲ

35. According to the passage, too little reverberation in a concert hall can result in _____.

(A) a quiet and insubstantial quality of sound

(B) a rapid increase in the volume of sound

(C) confusion among a listening audience

(D) an inaccurate estimate of its reverberation time

(E) the blurring of details in a piece of music

36. Which of the following does the author regard as the most significant consideration in the design of a concert hall?

(A) An understanding of reverberation time.

(B) The choice of building materials.

(C) An appreciation for music.

(D) The audience capacity.

(E) The purpose of the venue.

Passage 8

I became a fan of Joseph Heller's writing while I was a student in high school in fire 1970s. His most famous book, *Catch*-22, was practically an anthem for my friends and me. We had dissected it, sitting in the park outside school, reciting certain key passages aloud and proclaiming to anyone who would listen that this was quite possibly the best
(5) book ever written. Nearly twenty years later I am not sure that we were wrong.

Heller created a modern-day anti-hero who was a soldier trying to stay sane in the midst of a war in which he no longer believed. This spoke to my generation, growing up as we did during the turmoil of Vietnam, and—however you felt about the issue—his ideas were considered important.

I had spent many hours imagining what the man who had created the savage wit and brilliant imagery of that book would be like in person. I was soon to find out. To this day, I have no idea how it was arranged, but somehow an invitation to speak at my high school was extended and duly accepted.

On the day, I made sure to be near the gate of the school to see him arrive. I was looking for a limousine, or perhaps an entourage of reporters surrounding the man whose dust-jacket picture I had scrutinized so often. But suddenly, there he was, completely alone, walking hesitantly toward the school like just a normal person. He walked by me, and I was amazed to see that he was wearing rather tattered sneakers, down at the heel.

When he began speaking in the auditorium, I was dumbfounded, for he had a very heavy speech impediment.

"That can't be him," I whispered loudly to a friend. "He sounds like a dork."

My notions of a brilliant man at that time did not extend to a speech impediment—or any handicap whatsoever. Ordinary people were handicapped, but not men of brilliance. There was, in fact, a far amount of whispering going on in the auditorium.

And then somehow, we began to listen to what he was saying. He was completely brilliant. He seemed to know just what we were thinking and articulated feelings that I had only barely known that I had. He spoke for forty minutes and held us all spellbound. I would not have left my seat even if I could.

As I listened, I began to feel awaken in me the possibility of being more than I had supposed that I could be. With some difficulty I managed to get to the school gate again and waited for twenty minutes while I suppose he signed autographs and fielded questions inside the auditorium. Eventually, he came out, as he had come in, alone.

I screwed up all my courage and called to him, "Mr. Heller."

He almost didn't stop but then he turned around and came over to me.

"I just wanted to say how much I enjoyed your book."

He looked down at me in my wheelchair, smiled as if it was the most normal thing in the world and shook my hand. I think that day may have been very important in the future direction of my life.

37. To the author, Joseph Heller's hovel, *Catch*-22 was _____.

(A) an important but little-known work

(B) unusual in its frank portrayal of high school students and their problems

(C) too traditional for most readers

(D) inspiring and thought-provoking

(E) more suited to an older generation

38. The major purpose of the passage is to _____.

(A) describe an event that may have changed the author's perception of himself

(B) profile a famous novelist

(C) relate in dramatic form the author's early childhood memories

(D) suggest the sense of disappointment the author felt at encountering his hero in person

(E) discuss the literary significance of Heller's most famous novel

39. In line 32, "fielded" most nearly means _____.

(A) evaded (B) asked (C) responded to

(D) delved into (E) caught

40. The author most likely remembers his handshake with Heller because _____.

(A) Heller almost didn't stop to shake his band

(B) it was a form of recognition from someone who had overcome his own obstacles

(C) the author was a genuine fan of Heller's most famous book

(D) the author had been so unimpressed by Heller's speech at his high school

(E) Heller had taken the time to come to visit a high school, even though he was a celebrity

GO ON TO THE NEXT SECTION

SECTION 5
MATHEMATICS ACHIEVEMENT

Time: 40 minutes

25 Questions

Directions: Each question is followed by four suggested answers. Read each question and then decide which one of the four suggested answers is best.

Find the row of spaces on your answer document that has the same number as the question. In this row, mark the space having the same letter as the answer you have chosen. You may write in your test booklet.

Example Answer

$(5 + 3) - 2 =$ (A) (B) (C) (D)

(A) 6

(B) 8

(C) 10

(D) 13

The correct answer to this question is lettered A, so space A is marked.

1. If the perimeter of the polygon in Figure 1 is 25, what is the value of $a + b$?

   (A) 5

   (B) 7

   (C) 9

   (D) 10

   (E) 15

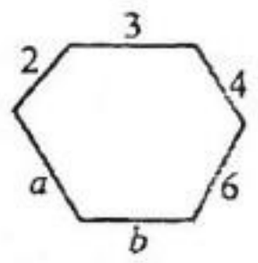


Figure 1

2. Julie's grades for her three math tests were 75, 100, and 89. What is her average grade for these three tests?

   (A) 80

   (B) 82

   (C) 85

   (D) 88

   (E) 92

3. What is the result when the product of 2 and 6 is subtracted from the sum of 14 and 14?

   (A) 21

   (B) 16

   (C) 12

   (D) 6

   (E) 2

4. N is a whole number between 3 and 6, and also a whole number between 4 and 8. What is the value of N?

   (A) 7

   (B) 6

   (C) 5.5

   (D) 5

   (E) 4.5

5. All of the following are less than $\frac{3}{4}$ EXCEPT _____.

   (A) $\frac{2}{3}$

   (B) $\frac{5}{8}$

   (C) $\frac{14}{16}$

(D) $\frac{7}{12}$

(E) $\frac{4}{6}$

Questions 6-7 refer to the chart in Figure 2.

6. How many more white cars than green cars were sold?

Popularity of Car Colors

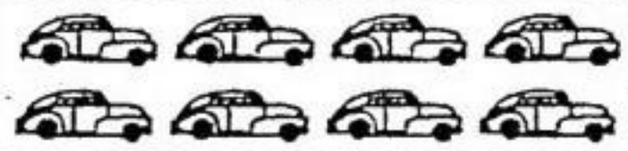
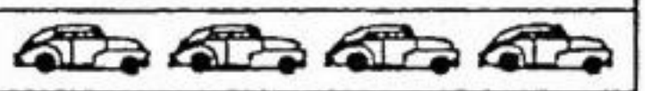
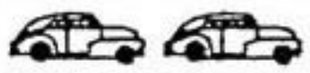
Each represents 100 cars sold	
Black	
White	
Red	
Green	

Figure 2

(A) 1
(B) 70
(C) 100
(D) 200
(E) 700

7. The number of black cars sold is how many times the number of green cars sold?
(A) 4,000
(B) 440
(C) 400
(D) 40
(E) 4

8. If $3 \times 4 \times N = 6 \times 2$, then $N =$ _____.
(A) 0
(B) 1
(C) 2
(D) 12
(E) 24

9. If the perimeter of the rectangle in Figure 3 is 20, what is the value of m?
(A) 2
(B) 4
(C) 5
(D) 6
(E) 8

Figure 3

10. A shirt sells for $ 40. If Cathy buys the shirt at a 25% discount, how much money does she save?
(A) $ 4
(B) $ 6
(C) $ 10
(D) $ 12
(E) $ 15

11. If there are 14 blue socks and 35 red socks in a drawer, what is the ratio of blue socks to red socks?
(A) 1:7
(B) 3:2
(C) 2:3
(D) 2:5
(E) 3:5

12. A bucket is set on a table, as shown in Figure 4. Which of the following describes all of the points where the bucket touches the table?

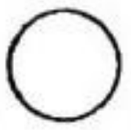


Figure 4

(A) 

(B) 

(C) 

(D) 

(E) 

13. If two times a whole number is less than 5 and greater than 0, the number could be _____.
(A) −2
(B) −1
(C) 0
(D) 2
(E) 4

14. If Cindy earns $ 21 per hour, how many hours must she work to earn $ 420?
(A) 42
(B) 24
(C) 20
(D) 12
(E) 16

15. If 0.74 is about $\frac{N}{8}$, then N is closest to _____.
(A) 100
(B) 8
(C) 6
(D) 4
(E) 3

16. At the start of the year, Terry invested $ 6,000 in South Bend Oil Corp. At the end of the year, his stock was worth $ 4,500. What was the percent decline in the value of his investment?
(A) 25%
(B) $33\frac{1}{3}\%$
(C) $66\frac{2}{3}\%$
(D) 75%
(E) 125%

17. What is $\frac{a}{b} - \frac{b}{a}$?
(A) $\frac{a-b}{ab}$
(B) $\frac{a^2-b^2}{ab}$
(C) $\frac{(a-b)^2}{ab}$
(D) $\frac{a^2-b^2}{2ab}$
(E) 1

18. Tracy has a test average of 90 after five tests. She only knows the scores of four of her tests: they are 80, 87, 94, and 89. What was the score on her other test?
(A) 100
(B) 98
(C) 97
(D) 90
(E) 87

19. What is 4 percent expressed as a decimal?
(A) 40
(B) 4
(C) 0.4
(D) 0.04
(E) 0.25

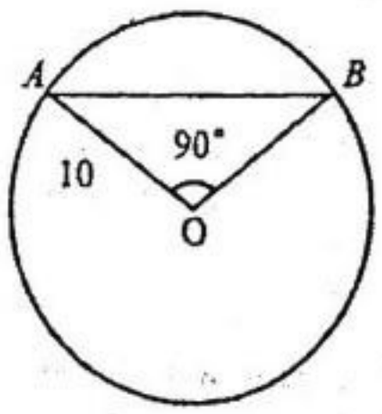
20. Express in simplest form the following ratio: 15 hours to 3 days.
(A) $7\frac{1}{2}$
(B) $\frac{15}{5}$
(C) $\frac{5}{8}$
(D) $\frac{15}{2}$
(E) $\frac{5}{24}$

21. $0.58 \times 0.14 =$ _____.
(A) 812
(B) 8.12
(C) 81.2
(D) 0.812
(E) 0.0812

22. If $3a - 5 = 10$, then $a =$ _____.
(A) -4
(B) 5
(C) $-\frac{2}{3}$
(D) $\frac{2}{3}$
(E) $\frac{5}{3}$

23. A gumball machine contains five red and three blue gumballs. If one gumball is removed, what is the probability that it will be red?
(A) $\frac{5}{3}$
(B) $\frac{3}{5}$
(C) $\frac{5}{8}$
(D) $\frac{3}{8}$
(E) $\frac{8}{3}$

24. How long is chord $\overline{AB}$ of circle O?



(A) $\sqrt{10}$

(B) $10\sqrt{2}$

(C) 100

(D) 10

(E) $\sqrt{50}$

25. $(2x^2 - 3x + 5) + (3x - 3) =$ _____.

(A) $2x^2 + 2$

(B) $2x^2 + 6x + 3$

(C) $2x^2 + 6x + 7$

(D) $2x + 3$

(E) $2x^2 - 6x + 3$