

Time: 25 minutes

Directions: How do movies or television influence people's behavior? Use reasons and specific examples to support your answer.

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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

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

Answer

(A) (B) (C) (D)

1. PLEAD:

- (A) cry
- (B) tease
- (C) beg
- (D) try
- (E) strike

2. PROWL:

- (A) sneak
- (B) leave
- (C) fight
- (D) scrub
- (E) growl

3. VESSEL:

- (A) car
- (B) account
- (C) decoration
- (D) container
- (E) blood

4. APPROVE:

- (A) judge favorably
- (B) watch attentively
- (C) regard innocently
- (D) consider carefully
- (E) withhold information

5. SEEP:

- (A) fall
- (B) stick
- (C) gurgle
- (D) liquefy
- (E) ooze

6. VEX:

- (A) play
- (B) irritate
- (C) locate
- (D) scream
- (E) scribble

7. DOZE;

- (A) refresh
- (B) bore
- (C) ignore
- (D) sleep
- (E) graze

8. BOUNTY;

- (A) upper limit
- (B) woven basket
- (C) generous gift
- (D) new harvest
- (E) outside border

9. COARSE;

- (A) rough
- (B) unpopular
- (C) difficult
- (D) sticky
- (E) sifted

10. MEEK;

- (A) old
- (B) quick
- (C) submissive
- (D) tiny
- (E) worried

11. HARBINGER;

- (A) entry
- (B) dock
- (C) messenger
- (D) consequence
- (E) lagoon

12. SENTRY;

- (A) beginning
- (B) row
- (C) companion
- (D) watch
- (E) revolutionary

13. ORBIT;

- (A) inertia
- (B) galaxy
- (C) project
- (D) revolution
- (E) program

14. PARADOX;

- (A) contradiction
- (B) curse
- (C) imperfection
- (D) dislike
- (E) submission

15. BUFFOON;

- (A) median
- (B) gas
- (C) sphere
- (D) gift
- (E) fool

16. IMMINENT;

- (A) immature
- (B) impenetrable
- (C) impossible
- (D) impending
- (E) implicated

17. TUMULT;

- (A) philosophy
- (B) sustenance
- (C) disorder
- (D) juvenilia
- (E) dossier

18. SPURN;

- (A) reject
- (B) unearth
- (C) clash
- (D) incinerate
- (E) twirl

19. PLETHORA;

- (A) waste
- (B) compassion
- (C) forewarning
- (D) myth
- (E) excess

20. DISSEMINATE;

- (A) broadcast
- (B) discourage
- (C) clarify
- (D) subside
- (E) renovate

21. LUCKY:

- (A) gleeful
- (B) hilarious
- (C) happy
- (D) fortunate
- (E) useful

22. IRRESPONSIBLE:

- (A) unsure
- (B) incisive
- (C) inconclusive
- (D) unrealistic
- (E) unreliable

23. JEOPARDY:

- (A) journey
- (B) archival
- (C) entertaining
- (D) endangerment
- (E) vocabulary

24. MOIST:

- (A) fresh
- (B) sponge
- (C) swamp
- (D) damp
- (E) saturate

25. SHAMEFUL:

- (A) humiliating
- (B) bewildering
- (C) caustic
- (D) evil
- (E) willful

26. PRECLUDE:

- (A) promise
- (B) avoid
- (C) imagine
- (D) prevent
- (E) listen

27. FOIBLE:

- (A) flaw
- (B) strength
- (C) goodbye
- (D) story
- (E) tradition

28. MEDITATE:

- (A) reject
- (B) agree
- (C) compromise
- (D) repair
- (E) ponder

29. TRAVESTY:

- (A) disaster
- (B) mockery
- (C) misfortune
- (D) adage
- (E) opinion

30. SURMISE:

- (A) provide
- (B) daybreak
- (C) govern
- (D) guess
- (E) shock

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

Ann carried the box carefully so that she would
not _____ the pretty glasses.

Answer

☒ (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.

● (B) (C) (D)

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

31. Braid is to hair as wind is to _____.
 (A) movie
 (B) joke
 (C) bow
 (D) clock
 (E) run
32. Blade is to grass as _____.
 (A) grain is to sand
 (B) plant is to leaves
 (C) roof is to house
 (D) metal is to rod
 (E) air is to gas
33. Athlete is to training as _____.
 (A) student is to studying
 (B) child is to parent
 (C) porpoise is to sea
 (D) adult is to child
 (E) mercenary is to money
34. Novel is to author as _____.
 (A) opera is to composer
 (B) light is to switch
 (C) form is to shape
 (D) song is to tape
 (E) rain is to flood
35. Miser is to gold as _____.
 (A) button is to zipper
 (B) prison is to criminal
 (C) toastmaster is to dinner
 (D) general is to victories
 (E) engine is to caboose
36. Horse is to centaur as _____.
 (A) worm is to snake
 (B) fish is to mermaid
 (C) cat is to lion
 (D) unicorn is to tapestry
 (E) Pegasus is to fly
37. Bat is to ball as _____.
 (A) theater is to seats
 (B) glove is to hand
 (C) fist is to mitt
 (D) foot is to pedal
 (E) stove is to pan
38. Ignition is to start as _____.
 (A) air is to tire
 (B) brake is to stop
 (C) gas is to tank
 (D) shut is to door
 (E) radio is to antenna
39. Touch is to push as _____.
 (A) sip is to gulp
 (B) glass is to water
 (C) translucent is to opaque
 (D) angry is to choleric
 (E) water is to milk
40. Bananas are to bunch as _____.
 (A) chicken is to duck
 (B) capon is to rooster
 (C) ram is to ewe
 (D) surgeon is to operation
 (E) lettuce is to head

41. Accelerator is to motion as _____.
 (A) ignition is to speed
 (B) catalyst is to change
 (C) inertia is to immobile
 (D) experiment is to hypothesis
 (E) automobile is to vehicle
42. Probable is to certain as _____.
 (A) plausible is to definite
 (B) approach is to reproach
 (C) steady is to rocky
 (D) correct is to accurate
 (E) save is to record
43. Obstruct is to impede as impenetrable is to _____.
 (A) porous
 (B) impervious
 (C) transparent
 (D) hidden
 (E) merciful
44. Include is to omit as acknowledge is to _____.
 (A) know
 (B) notice
 (C) greet
 (D) ignore
 (E) recognize
45. Nucleus is to electron as _____.
 (A) constellation is to Sun
 (B) Earth is to satellite
 (C) neutron is to proton
 (D) atom is to neutron
 (E) Earth is to Sun
46. Sculptor is to statue as _____.
 (A) programmer is to computer
 (B) actor is to play
 (C) orchestra is to conductor
 (D) composer is to music
 (E) paint is to artist
47. Dreary is to happy as _____.
 (A) close is to narrow
 (B) dearth is to surplus
 (C) light is to graceful
 (D) interdict is to expect
 (E) curtain is to play
48. Allow is to restrict as _____.
 (A) seeing is to believing
 (B) encourage is to prevent
 (C) gain is to success
 (D) terrible is to worse
 (E) heart is to soul
49. Interrupt is to speak as _____.
 (A) intrude is to enter
 (B) intercede is to interfere
 (C) telephone is to telegraph
 (D) interfere is to assist
 (E) shout is to yell
50. Modesty is to arrogance as _____.
 (A) cause is to purpose
 (B) hate is to emotion
 (C) agility is to stamina
 (D) debility is to strength
 (E) finance is to poverty
51. Flammable is to inflammable as _____.
 (A) opportune is to inopportune
 (B) impartial is to disinterested
 (C) relevant is to incoherent
 (D) persistent is to important
 (E) truculent is to intrusion
52. Tailor is to pattern as builder is to _____.
 (A) foundation
 (B) blueprint
 (C) contractor
 (D) architect
 (E) construct
53. Impeach is to dismiss as _____.
 (A) imprison is to jail
 (B) arraign is to indict
 (C) absent is to present
 (D) plant is to sow
 (E) accuse is to charge
54. Speedy is to greyhound as _____.
 (A) clever is to fox
 (B) wool is to lamb
 (C) mammal is to whale

- (D) fin is to fish
(E) shark is to voracious
55. Exhale is to lung as _____.
(A) pump is to heart
(B) taste is to tongue
(C) think is to brain
(D) exhume is to corpse
(E) perspire is to skin
56. Celebrate is to birth as _____.
(A) crime is to penalty
(B) party is to graduation
(C) announce is to birthday
(D) grieve is to death
(E) joy is to lament
57. Recommend is to urge as _____.
(A) cajole is to insult
(B) harass is to bother
(C) apply is to receive
(D) request is to plead
(E) refuse is to deny
58. Weeping is to tears as breathing is to _____.
(A) mouth
(B) carbon dioxide
(C) nose
(D) air
(E) lungs
59. Plane is to air pocket as _____.
(A) horse is to reins
(B) safety is to danger
(C) ground is to sky
(D) vehicle is to rut
(E) hangar is to airport
60. Arbitrate is to dispute as _____.
(A) regard is to problem
(B) exacerbate is to problem
(C) organize is to labor
(D) management is to union
(E) solve is to mystery

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.

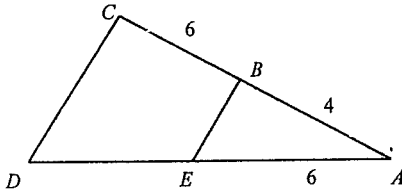
Each question consists of a word problem followed by four answer choices. You may write in your test booklet; however, you may be able to solve many of these problems in your head. Next take a look at the four answer choices and select the best one.

ExampleIf $3 + x = 5$, what is the value of x ?**Answer**

(A) 0 (B) 1 (C) 2 (D) 3

☐ (A) ☐ (B) ☒ (C) ☐ (D)

- The average of three numbers is 5. What is three times the sum of the three numbers?
(A) 6
(B) 15
(C) 30
(D) 45
(E) 90
- How many factors does the number 15 have?
(A) 2
(B) 3
(C) 4
(D) 6
(E) 8
- John owns $\frac{1}{3}$ of the CDs in the collection. If there are a total of 180 CDs, how many does John own?
(A) 20
(B) 40
(C) 60
(D) 120
(E) 360
- What is the perimeter of an equilateral triangle, one side of which measures 6 inches?
(A) 18 inches
(B) 12 inches
(C) 6 inches
(D) 3 inches
(E) It cannot be determined.
- Tyler, Sharice, and James want to put their money together in order to buy a \$360 radio. If Sharice agrees to pay twice as much as James, and Tyler agrees to pay six times as much as Sharice, how much will Sharice contribute?
(A) \$30
(B) \$48
(C) \$90
(D) \$150
(E) \$180
- The price of a jacket is reduced by half, and the resulting price is then reduced by 10%. The final price is what percentage of the original price?

- (A) 10 %
 (B) 40 %
 (C) 45 %
 (D) 55 %
 (E) 60 %
7. In a jar of gumdrops, the ratio of green gumdrops to red gumdrops is 9:5. If only green and red gumdrops are in the jar and the total number of gumdrops is 56, how many green gumdrops are in the jar?
 (A) 5
 (B) 8
 (C) 15
 (D) 28
 (E) 36
8. A stop sign has eight equal sides and a perimeter of 96. What is the length of each individual side?
 (A) 2
 (B) 4
 (C) 8
 (D) 12
 (E) It cannot be determined.
9. Two cardboard boxes have equal volume. The dimensions of one box are $6 \times 6 \times 10$. If the length of the other box is 3 and the width is 10, what is the height of the second box?
 (A) 2
 (B) 5
 (C) 10
 (D) 12
 (E) 16
10. At a fund-raiser, 500 people each donated y dollars. In terms of y , what was the total number of dollars donated?
 (A) 500
 (B) $500y$
 (C) $\frac{y}{500}$
 (D) $\frac{500}{y}$
 (E) $500 + y$
11. Using the formula $A = p + prt$, find A , when $p = 500$, $r = 0.08$, and $t = 2\frac{1}{2}$.
 (A) 700
 (B) 600
 (C) 550
 (D) 500
 (E) 450
- 12.
- 
- Triangles ABE and ACD are similar. Find the length of \overline{DE} .
 (A) 9
 (B) 15
 (C) 4
 (D) 11
 (E) 8
13. The expression $(3K^3)^2$ is equivalent to _____.
 (A) $9K^6$
 (B) $27K^6$
 (C) $27K^5$
 (D) $9K^5$
 (E) $3K^5$
14. Find the value of y in the proportion $\frac{30}{48} = \frac{5}{y}$.
 (A) $\frac{3}{8}$
 (B) 3
 (C) 15
 (D) 8
 (E) $8\frac{1}{3}$
15. If $\frac{5}{x}$ is subtracted from $\frac{3}{x}$, the result is _____.
 (A) 2
 (B) $\frac{8}{x}$

(C) $-\frac{2}{x}$

(D) $\frac{2}{x}$

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

16. The markdown price of a computer game was \$22.97, which represented 50% of the original selling price. What was the original selling price?

(A) \$27.56

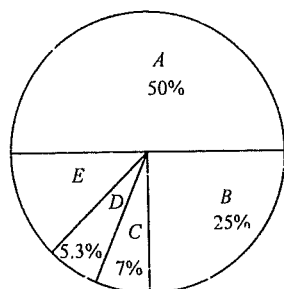
(B) \$42.35

(C) \$45.94

(D) \$49.00

(E) \$45.35

17. Use this chart to answer question 17.



Freddie's Budget

Weekly net income = \$480

A. Food

B. Rent and Utilities

C. Entertainment

D. Clothing

E. Miscellaneous

How much money does Freddie spend on miscellaneous items each week?

(A) \$43.05

(B) \$19.05

(C) \$130.95

(D) \$18.55

(E) \$60.96

18. What is the x -intercept of the line described by the equation $y = 4x + 5$?

(A) 5

(B) -5

(C) $-\frac{5}{4}$

(D) $-\frac{4}{5}$

(E) 0

19. What is 60 expressed as the product of its prime factors?

(A) (5)(13)

(B) (5)(12)

(C) (5)(3)(2)(2)

(D) (4)(4)(3)

(E) (15)(6)

20. If $|6a - 2| = 3$, what is a possible value of a ?

(A) 3

(B) -3

(C) 29

(D) $-\frac{1}{3}$

(E) $\frac{5}{6}$

21. Dinner (plus tax and tip) cost \$145.6.

The tax rate is 10% and Mr. Simmons left a 20% tip. Both tax and tip are calculated on the base amount of the check. What was the base amount of Mr. Simmons's bill?

(A) \$78.00

(B) \$113.32

(C) \$77.41

(D) \$112.00

(E) \$81.30

22. What is the area of a square whose diagonal is 8?

(A) 32

(B) 24

(C) 18

(D) 12

(E) $6\sqrt{2}$

23. Which fraction lies between $\frac{2}{3}$ and $\frac{4}{5}$?

(A) $\frac{5}{6}$

(B) $\frac{17}{20}$

(C) $\frac{7}{10}$

(D) $\frac{13}{15}$

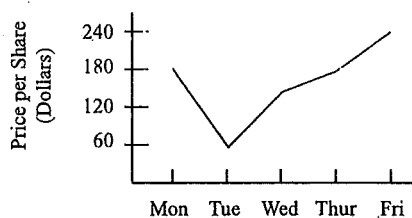
(E) $\frac{9}{10}$

24. The circumference of a circle whose diameter is 9 inches is approximately _____.

- (A) 22 inches
 (B) 28 inches
 (C) 38 inches
 (D) 154 inches
 (E) 14 inches

25.

Zariche Toy Co.
 Closing Price per Share



Josie bought 10 shares of Zariche stock at the closing price Monday and sold them at the closing price on Friday. What was Josie's profit on this investment?

- (A) \$ 60
 (B) \$ 96
 (C) \$ 600
 (D) \$ 960
 (E) None of the above.

GO ON TO THE NEXT SECTION

SECTION 4

READING COMPREHENSION

Time: 35 minutes

40 Questions

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

Passage 1

Alchemy is the name given to the attempt to change lead, copper, and other metals into silver or gold. Today, alchemy is regarded as a pseudoscience. Its associations with astrology and the occult suggest primitive superstition to the modern mind, and the alchemist is generally portrayed by historians as a charlatan obsessed with dreams of impossible wealth. For many centuries, however, alchemy was a highly respected art. In the search for the elusive secret to making gold, alchemists helped develop many of the apparatuses and procedures that are used in laboratories today. Moreover, the results of their experiments laid the basic conceptual framework of the modern science of chemistry.

1. The passage is mainly about the _____.
 - (A) manufacture of gold from other metals
 - (B) mystery surrounding the origins of chemistry
 - (C) links between chemistry, astrology and sociology
 - (D) specific results of alchemists' experiments
 - (E) early history of a scientific field
2. According to the passage, alchemists are generally portrayed in history books as _____.
 - (A) rogues motivated by greed
 - (B) the ancestors of today's chemists
 - (C) brilliant scientists
 - (D) talented but misunderstood individuals
 - (E) wealthy businessmen
3. It can be inferred from the passage that a "charlatan" _____.
 - (A) practiced an early form of chemistry
 - (B) uses his research for criminal purposes
 - (C) is not respected by historians

- (D) understood the secret to making gold
 (E) existed only in the Middle Ages
4. The style of the passage is most like that found in a _____.
 (A) newspaper article (B) history textbook (C) novel about alchemists
 (D) personal letter (E) scientist's diary
5. With which of the following statements would the author most likely agree?
 (A) Alchemists helped pave the way for scientists today.
 (B) Astrology and the occult also deserve consideration as legitimate sciences.
 (C) Alchemy was a primitive, superstitious field of science.
 (D) Alchemy is becoming increasingly respectable among today's chemists.
 (E) Few alchemists ever became wealthy from their work.
6. The following questions are all answered by the passage EXCEPT: _____?
 (A) How did alchemists turn metals into gold
 (B) Has the general consensus always been that alchemists were charlatans
 (C) What have alchemists contributed to science
 (D) How do historians view alchemy
 (E) What did alchemists hope to achieve
7. Which of these titles is the most appropriate for the passage?
 (A) In Pursuit of Wealth.
 (B) Alchemists: Charlatan or Scientist?
 (C) Alchemy's Contributions to Science.
 (D) Turning Copper to Gold.
 (E) Alchemy as Art.

Passage 2

- Before a joint session of Congress in January 1918, President Woodrow Wilson outlined his plan for a post-World War I peace settlement. Known as the Fourteen Points, Wilson's plan is best remembered for its first point, which declared that international diplomacy should be conducted in the open and that quiet, unpublicized
- (5) diplomacy should be made illegal. Wilson believed that public diplomacy would end the threat of war by preventing immoral national leaders from secretly plotting aggressive actions against others.

- Although Wilson was a highly intelligent and well-meaning man, he lacked insight into the complexities of international politics. Contrary to Wilson's belief, war rarely
- (10) results from the behind-the-scenes plotting of unscrupulous national leaders. Rather, war usually stems from unresolved disagreements among nations—disagreements over territory, access to resources, and so forth. Even if quiet diplomacy could be eliminated, these disagreements would still remain, as would the threat of war.

8. The second paragraph of this passage is primarily about _____.
 (A) disagreements among nations
 (B) the actual causes of war
 (C) the first point in Wilson's Fourteen Points
 (D) diplomacy's role in international politics
 (E) a post-World War I peace settlement
9. The attitude of the writer toward the subject is _____.
 (A) apologetic (B) opinionated (C) cheerful
 (D) suspicious (E) calculating
10. The author would most likely agree that war between country A and country B would result from which of the following situations?
 (A) An agreement by a leader in country A to tax imports from a third country.
 (B) A dispute over ownership of a piece of land bordering both countries.
 (C) A secret alliance made between country A and another country.
 (D) The capture of a spy from country A in country B.
 (E) An unpublicized agreement by country A to sell weapons to country B.
11. Why does the author say that open diplomacy would not prevent war?
 (A) Open diplomacy is not a solution to the problems which lead to war.
 (B) Quiet diplomacy will always be a part of international relations.
 (C) Disagreements over territory and resources rarely lead to conflict.
 (D) International relations are too complex to be conducted in the public eye.
 (E) War breaks out because immoral rulers make decisions in secret.
12. All of the following questions can be answered by the passage EXCEPT: _____?
 (A) To the author, what is the reason why war usually starts
 (B) Did Wilson support public diplomacy, or concealed diplomacy
 (C) Does the author think the Fourteen Points was a good plan
 (D) How does the author think the threat of war could be eliminated for good
 (E) Does the author feel he or she understands international politics better than Wilson did
13. Which of the following is the author most likely to discuss next?
 (A) An example of a war that resulted from a territorial or resource dispute.
 (B) Wilson's domestic policies in the post-World War I period.
 (C) The events leading up to World War I.
 (D) Other examples of Wilson's intelligence.
 (E) The impact of import taxes on foreign trade relations.

Passage 3

Most people would agree that obedience to authority is necessary. Without obedience it would be difficult, if not impossible, for society to function.

A famous experiment conducted by Stanley Millgram at Yale University in the United States in the 1960s went toward answering this question. The experiment is too

- (5) complex to describe here in detail, but it showed that most people will obey authority even if it goes against what they think is morally right. Subjects were deceived by the experimenter into thinking that they were inflicting pain on others by electric shocks. The experimenters told the subjects that what they were doing was important for science and that they must continue to administer the shocks. The finding was that
- (10) about 65 percent of subjects in the experiment regularly administered what they believed to be very painful shocks.

- Some people have suggested that the phenomenon could to some extent explain the horrific acts of men such as Adolf Eichmann and the other Nazi officials responsible for Hitler's Holocaust. At their trial after World War II, Eichmann and the others
- (15) consistently maintained that they did not act out of hatred or cruelty but because they had been ordered to do so by their superiors.

- Stanley Millgram himself observed, "It is psychologically easy to ignore responsibility when one is only an intermediate link in a chain of evil action. Thus there is a fragmentation of the total human act; no one decides to carry out the evil act and is
- (20) confronted with its consequences."

14. In context, which of the following is the best word or phrase to insert at the beginning of the second sentence?
- (A) Consequently.
(B) On the other hand.
(C) After all.
(D) However.
(E) Oddly enough thought.
15. Which of the following is the best sentence to insert at the end of the first paragraph?
- (A) How could it be otherwise?
(B) Would society break down into total anarchy?
(C) For example, without obedience how could a country have an army?
(D) However, can too much obedience be bad?
(E) However, some political scientists dispute this claim.
16. Of the following, which is the best version of the underlined portion of sentence in line 3 (reproduced below)?

A famous experiment conducted by Stanley Millgram at Yale University in the 1960s went toward answering this question.

- (A) as it is now
(B) was something helpful in
(C) helped to be
(D) went somewhere in the direction of
(E) went some way toward
17. Where in the essay could the following sentence best be inserted to improve the essay?
- The experiment has been repeated in a number of countries around the world with similar results, suggesting that the phenomenon is not unique to the United States.*

- (A) After "A famous... question", in lines 3-4.
 - (B) After "Subjects were... shocks", in lines 6-7.
 - (C) After "The experimenters... snocks", in lines 8-9.
 - (D) After "The finding... shocks", in lines 9-11.
 - (E) After "Some people, Holocaust", in lines 12-14.
18. Which of the following best describes the function of the final paragraph?
- (A) To cast doubt on the suggestion made in "Some pople... Holocaust", in lines 12-14.
 - (B) To provide evidence to support the suggestion made in "Some pople... Holocaust", in lines 12-14.
 - (C) To provide a statement of the possible significance of the experiment described in paragraph 2, especially as it relates to what is discussed in the second paragraph.
 - (D) To give an example to illustrate the point made in the second sentence.
 - (E) To suggest areas for further experimentation.
19. All of the following strategies or techniques are used by the author EXCEPT _____.
- (A) direct quotation
 - (B) indirect quotation
 - (C) irony
 - (D) citing of evidence
 - (E) explanation of a procedure

Passage 4

- What is a cord of wood? Some people say the cord is the most elastic unit of measure ever devised by the mind of humans. A "standard" cord is a pile of stacked wood $4 \times 4 \times 8$ feet; that's 128 cubic feet. How much of this is wood? That depends on what kind of wood, the size and straightness of the sticks, and who does the piling.
- (5) Small crooked sticks, cut from hardwood limbs and piled by one of those cordwood artists who know how to make air spaces, may contain less than 30 cubic feet of solid wood per cord. Smooth, round wood such as birch or spruce, in sizes eight inches and better, will average 100 cubic feet or more per cord. That's with the bark on. Peeled wood will make 10 to 12 percent more cubic volume in the same sized stack.
- (10) The heating value of wood varies enormously with the kind of tree. Black locust, white oak, hickory, black birch, and ironwood are the best. A cord of any of these woods, when seasoned, is worth approximately a ton of coal. Beech, yellow birch, sugar maple, ash, and red oak are next. White birch, cherry, soft maple, sycamore, and elm are comparatively poor fuel woods, with basswood, butternut, poplar, and the
- (15) softwoods at the bottom of the scale.

20. The title that best expresses the main idea of this selection is _____.
 (A) "The Value of a Cord of Wood"
 (B) "Kinds of Trees"
 (C) "Modern Heating"
 (D) "Fuels"
 (E) "Standard Measures"
21. A standard cord of wood _____.
 (A) contains less than 30 cubic feet of solid wood
 (B) is measured by weight of the wood per foot
 (C) is stacked wood in a pile $4 \times 4 \times 8$ feet
 (D) always contains 128 cubic feet of wood
 (E) will average 100 cubic feet of wood
22. Removal of the bark before stacking _____.
 (A) prevents seasoning of wood
 (B) allows more air spaces in a cord of wood
 (C) decreases the measurements of the wood
 (D) increases the cubic volume of wood in a cord
 (E) makes the stacking easier
23. The amount of heat supplied by wood depends upon the _____.
 (A) amount of bark left on the wood
 (B) way the wood was cut
 (C) straightness of the sticks
 (D) person who has piled the wood
 (E) type of tree from which the wood came
24. The most valuable fuel woods come from _____.
 (A) home-grown beech, maple, cherry, and elm trees
 (B) sycamore, ash, butternut, and poplar that have been sprayed
 (C) any kind of wood that is well-seasoned
 (D) all kinds of birches and oaks
 (E) hickory, ironwood, black birch, black locust, and white oak

Passage 5

- There are many things from which I might have derived good, by which I have not profited, I dare say, Christmas among the rest. But I am sure I have always thought of Christmas-time, when it has come round—apart from the *veneration* due to its sacred origin, if anything belonging to it can be apart from that—as a good time; a kind,
- (5) forgiving, charitable, pleasant time; the only time I know of, in the long calendar of the year, when men and women seem by one consent to open their shut-up hearts freely and to think of people below them as if they really were fellow travelers to the grave, and not another race of creatures bound on other journeys. And therefore, uncle,

though it has never put a scrap of gold or silver in my pocket, I believe that it has done
(10) me good, and will do me good; and I say, "God bless it!"

The clerk in the tank involuntarily applauded.

"Let me hear another sound from you," said Scrooge, "and you'll keep your Christmas by losing your situation! You're quite a powerful speaker, sir," he added, turning to his nephew. "I wonder you don't go into Parliament."

—from A Christmas Carol by
Charles Dickens

25. The word *reverence* probably means _____.
(A) disapproval (B) agreement (C) participation
(D) worship (E) love
26. The first speaker _____.
(A) has been fired by Scrooge
(B) is obviously frightened of Scrooge
(C) is a very religious person
(D) enjoys and celebrates Christmas
(E) is defending Christmas
27. The first speaker believes that Christmas _____.
(A) is an excuse for people to throw wild parties
(B) has been separated from its religious origin
(C) is a pleasant nuisance
(D) brings out the best in people
(E) could be a profitable time of year
28. The phrase "by one consent" is synonymous with _____.
(A) unanimously (B) affirmation (C) contractual
(D) reaffirmation (E) partially
29. Scrooge probably is angry with _____.
(A) only the clerk
(B) the speaker and the clerk
(C) no one
(D) only the speaker
(E) people who celebrate Christmas

Passage 6

- Although eating too much fat has been shown to be harmful, some fat is essential in the human diet. Fat helps in the absorption of some vitamins, provides our bodies with insulation, and is a source of energy. And eating some fat in a meal helps people to feel full for a longer period of time, so they will not want to snack between meals. But not
(5) all fat is healthy. There are two kinds of fat, saturated and unsaturated. Saturated fat

- is the kind of fat that is usually solid at room temperature. It is found in meat and dairy products. This kind of fat is very high in calories, and it raises the blood cholesterol level. High blood cholesterol can clog the arteries, which may lead to heart attacks. There are two types of unsaturated fat. One type, called polyunsaturated, or "essential fatty acid", is found in fish, sunflower seeds, corn oil, and walnuts. Some research suggests that essential fatty acids help to prevent heart disease and aid in healthy brain function and vision. Monounsaturated fat is found in foods like olives, avocados, and peanuts. Diets high in monounsaturated fat can lower cholesterol levels. However, even though some fat is needed, dietary guidelines suggest that no more than 30 % of
- (10) calories in a person's diet should come from fat.
- (15)

30. According to the passage, essential fatty acids _____.
 (A) are found in peanuts
 (B) can be eaten in unrestricted amounts
 (C) raise the level of cholesterol in the blood
 (D) may aid in having good vision
 (E) lower cholesterol levels
31. The best title for this passage is _____.
 (A) "Benefits of Eating Fat"
 (B) "Foods High in Saturated Fat"
 (C) "Why Fat Is Harmful"
 (D) "Types of Fat"
 (E) "The Role of Fat"
32. Saturated fats could be found in all of the following EXCEPT _____.
 (A) a pepperoni pizza
 (B) hamburgers and butter
 (C) sausages and bacon
 (D) tuna fish salad
 (E) a grilled cheese sandwich
33. Monounsaturated fat _____.
 (A) is found in sunflower seeds and walnuts
 (B) can lower cholesterol levels
 (C) is solid at room temperature
 (D) helps to prevent heart disease
 (E) is an essential fatty acid
34. According to the passage _____.
 (A) calories from fat are always harmful
 (B) counting calories is not important
 (C) monounsaturated fat has the smallest number of calories
 (D) saturated fats are very high in calories
 (E) all fats contain the same amount of calories

- In recent years, scientific research has done much to alter long-held beliefs about history. This is particularly true of scholarship surrounding the Silk Road. The Silk Road was a trans-Asian trading route that extended across two continents, linking China with the center of European trade in the Mediterranean. Most famous for the transport of silk, this ancient highway was also the conduit for such items as roses, peaches, gunpowder, and paper. Systems of belief were also passed along the road; the spread of Christianity, Buddhism, and Islam was accelerated by the connection between East and West.

- Based on historical texts, historians have traditionally believed that the Silk Road was established in 115 B.C., yet the recent discovery of a much older piece of silk in Egypt suggests that the road was established at least a thousand years earlier. Through carbon dating, scientists dated the fabric of the newly discovered piece of silk to around 1000 B.C. In that period, only the Chinese held the secret to silk manufacturing. Mediterranean countries would not develop the technology to manufacture silk until the sixth century A.D. As a result, historians now believe that Asia and Europe may have traded silk via the Silk Road as long ago as the second century B.C.—though exactly how traders navigated the plateaus, mountains and deserts that lie along the route remains a mystery.

35. This passage is primarily about _____.
(A) the introduction of silk manufacturing to Europe
(B) conflict between Chinese and Mediterranean traders
(C) ancient trading routes between East and West
(D) the spread of Christianity, Buddhism, and Islam
(E) the impact of a new discovery on a historical theory
36. As used in the article, the phrase “systems of belief” most likely means _____.
(A) religions (B) military secrets (C) organizations
(D) languages (E) travel routes
37. According to the passage, all of the following were traded along the Silk Road EXCEPT _____.
(A) explosives (B) fruit (C) flowers
(D) jewels (E) fabrics
38. It can be inferred from paragraph 2 that historians believe that _____.
(A) most ancient Egyptian garments were made of silk
(B) carbon dating is not the most accurate method of dating artifacts
(C) the ancient silk fragment found in Egypt must have been imported from China
(D) the ancient Egyptians were unable to cross plateaus, mountains, or deserts
(E) the silk fragment discovered in Egypt was a fake

39. The author's style is best described as _____.
(A) poetic (B) mysterious (C) dramatic
(D) informative (E) surprised
40. According to the passage, it is reasonable to assume that _____.
(A) the author believes the Silk Road never existed
(B) historians can't say for sure whether the recent silk discovery was from Asia
(C) the Silk Road had not been established yet in 200 B.C.
(D) if it weren't for the Silk Road, Mediterranean countries never would have developed silk-producing technology
(E) civilizations used the Silk Road for more than just trade

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

$$(5 + 3) - 2 =$$

(A) 6

(B) 8

(C) 10

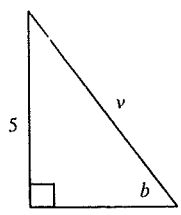
(D) 13

Answer

☒ (A) ☐ (B) ☐ (C) ☐ (D)

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

1. A gas tank is $\frac{1}{4}$ empty. When full, the tank holds 20 gallons. How many gallons are in the tank now?
(A) 3
(B) 6
(C) 8
(D) 12
(E) 15
2. Which of the following is the least?
(A) $\frac{1}{4} + \frac{2}{3}$
(B) $\frac{3}{4} - \frac{1}{3}$
(C) $\frac{1}{12} \div \frac{1}{4}$
(D) $\frac{3}{4} \times \frac{1}{3}$
(E) $\frac{1}{12} \times 4$
3. If the sum of x and $x + 3$ is greater than 35, which is a possible value for x ?
(A) -18
(B) -12
(C) -2
(D) 12
(E) 18
4. If a square has a perimeter of 100, what is the length of each side?
(A) 4
(B) 11
(C) 22
(D) 25
(E) 110
5. If a Set R contains four positive integers whose average is 7, what is the greatest number Set R could contain?
(A) 4
(B) 9
(C) 25

- (D) 33
(E) 36
6. Which of the following is most nearly 40% of \$9.95?
(A) \$8.00
(B) \$4.00
(C) \$14.50
(D) \$12.00
(E) \$6.75
7. One fifth of a class chose electricity for the topic of a science project. If 4 students chose this topic, how many students are in the class?
(A) 20
(B) 10
(C) 8
(D) 5
(E) 2
8. Don is 8 years older than Peter is. In 7 years, Don will be twice as old as Peter is now. How old is Peter now?
(A) 5
(B) 10
(C) 15
(D) 25
(E) 35
9. If p pieces of candy cost c cents, 20 pieces of candy will cost.
(A) $\frac{pc}{20}$ cents.
(B) $\frac{20c}{p}$ cents.
(C) $20pc$ cents.
(D) $\frac{20p}{c}$ cents.
(E) $20 + p + c$ cents.
10. Durant's Trading Company earned profits of \$75,000 in 1990. In 1998, their profit was \$4,500,000. The profit from 1998 was how many times as great as it was in 1990?
(A) 2
(B) 4
(C) 6
(D) 10
(E) 60
- 11.
- 
- If $b = 45^\circ$, then $v^2 =$ _____.
- (A) 64
(B) 50
(C) 25
(D) 10
(E) It cannot be determined
12. A pet goat eats 3 pounds of oats and 2 pound of grass each day. When the goat has eaten a total of 30 pounds, how many pounds of grass has been eaten?
(A) 6
(B) 8
(C) 10
(D) 12
(E) 60
13. If $2x - 4 = 50$, what is $x \div 9$?
(A) 6
(B) 3
(C) 0
(D) 9
(E) 1
14. One half the difference between the number of degrees in a rectangle and the number of degrees in a triangle is _____.
(A) 360
(B) 240
(C) 180
(D) 90
(E) 45
15. A zoo has 3 times as many gorillas as tigers. There are 3 more tigers than there are zebras at the zoo. If z represents the number of zebras, in terms of z , how many gorillas are in the zoo?
(A) $3z$
(B) $z + 3$

- (C) $z + 6$
(D) $3z + 3$
(E) $3z + 9$
16. In the fraction $\frac{xy}{z}$. If the value of z is doubled and the value of x is halved, the value of the fraction is _____.
(A) multiplied by four
(B) decreased by $\frac{1}{2}$
(C) increased by $\frac{1}{2}$
(D) doubled
(E) divided by four
17. 40 is 10 percent of _____.
(A) 1.60
(B) 160
(C) 200
(D) 250
(E) 400
18. How much larger than 80 is 100 _____.
(A) 18%
(B) 20%
(C) 25%
(D) 35%
(E) 40%
19. If $\frac{3}{8}$ " on a scale drawing is equivalent to one foot at full scale, what distance on the drawing will stand for forty inches?
(A) $\frac{1}{8}$ inch
(B) $\frac{7}{8}$ inches
(C) $1\frac{1}{4}$ inches
(D) $2\frac{1}{3}$ inches
(E) $8\frac{8}{9}$ inches
20. $6 \div \frac{2}{3} + \frac{1}{3} \times 9 =$ _____.
(A) $\frac{2}{3}$
(B) 12
(C) 24
(D) 54
(E) 168
21. If $x + 3 < 12$, x may be _____.
(A) less than 15
(B) greater than 16
(C) equal to 15
(D) less than 9
(E) equal to 9
22. If $a = 16$, $b = 2$, and $c = 3$, the value of $\sqrt{a + 3b + c}$ is _____.
(A) 16
(B) 7
(C) 5
(D) 4
(E) 2
23. The average of -3 , 17 , 0 , -1 , and 12 is _____.
(A) 5
(B) 3
(C) 2
(D) -3
(E) -6
24. In the fraction $\frac{1}{\Delta - 3}$, Δ can be replaced by all of the following EXCEPT _____.
(A) $+3$
(B) $+2$
(C) 0
(D) -1
(E) -2
25. $0.1011 \div 10$ is equivalent to _____.
(A) 0.0010101
(B) 0.01011
(C) 0.010101
(D) 0.1001
(E) 1.0101

参考答案

SECTION 1: WRITING THE ESSAY

There is no question that movies or television influence people's behavior, but simply how and to what extent. This is why movies in the United States have ratings to help guide parents as to which movies should not be seen by children and teenagers. The influence of movies and television on people's behavior varies according to the movie or program itself, and according to the viewing audience.

Of course, watching movies and television can be good for us. It can give us a broader window on the world. For example, seeing movies can expose us to people of different races and cultures. We can then overcome some prejudices more easily. Recently there have been more handicapped people in films, and this also helps reduce prejudice. The best benefit of movies and television reduce stress. Watching films, we can escape our own problems for a little while. Also, sometimes movies show positive ways to resolve problems we all face. While TV and movies shouldn't be a way to hide from life, sometimes they can help us cope.

On the other hand, another influence movies and television have had on people's behavior is not so benign and has definitely been a negative influence. I am speaking about the increasing amount of violence both in movies and on television. Numerous studies have conclusively shown that watching violence in

movies and on TV has led to an increase in violence in society, especially committed by young people. Violence in the films is often "glorified" and made to look both exciting and rewarding, and the young think they can successfully copy this behavior. Needless to say, this influence has a very negative effect on society as a whole.

In conclusion, it is true that movies and television do exert an influence on people's behavior, especially among the impressionable young. Much of this influence is "harmless", in such areas as fashion, hairstyle, language and expressions. Unfortunately, there has also been a very negative influence from the increasing amount of violence found in movies and on television, which has led to an increase in violence in society.

SECTION 2: VERBAL REASONING

1. C
To plead is to appeal earnestly or desperately to beg.
2. A
To prowl is to move around secretly, stealthily—in other words, to sneak.
3. D
A vessel, such as a bowl or glass, is a container for holding something.
4. A
To approve means to judge favorably.
5. E
To seep means to flow through little cracks, or to ooze.

6. B
To vex means to anger, or irritate.
7. D
To doze is to sleep lightly. You might doze because someone bores you, but the two words are not synonymous.
8. C
A bounty is a reward or gift.
9. A
Something coarse is harsh or rough.
10. C
Meek means mild-mannered or submissive.
11. C
A harbinger is a messenger. Dark clouds are often a harbinger of a rain storm.
12. D
A sentry is a group of people who look out for certain things—a watch. During war, the sentry looks out for the enemy.
13. D
An orbit occurs when one object circles around another object, it is a revolution. When the moon orbits the earth, it makes a revolution. Don't be tricked by the fact that revolution also means a war, as in the American Revolution. If a word has more than one meaning, make sure you consider them all before deciding that an answer choice is incorrect.
14. A
A paradox occurs when one thing is said, but another is meant—it's a confusion or a contradiction. The word "bittersweet" is a contradiction. How can something be bitter and sweet at the same time?
15. E
A buffoon is a person who everyone makes fun of—a fool. Clowns often pretend to be buffoons.
16. D
An imminent event is just about to happen—it is impending. For centuries, people have believed that the end of the world is imminent.
17. C
Tumult is havoc, or disorder. When a hurricane goes through towns, it can create a tumult.
18. A
To spurn someone is to scorn or reject someone. A spurned friend is a rejected friend.
19. E
Plethora is the opposite of dearth. A plethora is an abundance or an excess of something. If there's a plethora of corn, there's a great deal of corn.
20. A
To disseminate something is to spread it out or to broadcast it. To disseminate information is to broadcast it.
21. D
Being lucky means having or bringing a good fortunate. This is my lucky number.
22. E
Being irresponsible means showing lack of care for consequences. It is very irresponsible of him not to answer my letter.
23. D
Jeopardy means a source of danger. Their future is in jeopardy.
24. D
Being moist means slightly wet. The seeds need rich and moist soil.
25. A
Being shameful means deserving or bringing disgrace or shame. Is being a beggar very shameful?
26. D
To preclude is to keep from happening or arising. That will preclude his escaping.

27. A
Foible is a behavioral attribute that is distinctive and peculiar to an individual. It is a big foible of all the people.
28. E
To meditate is to reflect deeply on a topic. I am at peace as I meditate.
29. B
A travesty is a debased or grotesque likeness or a mockery.
30. D
Surmise is a message expressing an opinion based on incomplete evidence. Your first surmise was right.
31. B
We braid hair, as we wind a clock. To braid and to wind are actions applied to objects.
32. A
Blades make up grass as grains make up sand. The relationship is that of part to whole. Choices (B), (C) and (E) are incorrect because the relationship is type to characteristic. Choice (D) has no obvious relationship other than rods may be made of metal.
33. A
An athlete needs training to succeed; a student needs studying to succeed. The relationship is object to its function. Choice (E) is incorrect because the relationship is worker and creation. Choice (C) is incorrect because the relationship is worker to workplace. Choices (B) and (E) are incorrect because the relationship is that of antonyms.
34. A
A novel is written by an author. An opera is written by a composer. The relationship is worker and creation. Choices (E) and (B) are incorrect because they show cause to effect. Choice (C) is incorrect because the relationship is that of synonyms. Choice (D) is incorrect because the relationship is part to whole. Several songs make up a tape.
35. D
A miser desires gold as a general desires victories. The relationship is cause to effect. Choice (E) is incorrect because the relationship is item to category. Choice (C) is incorrect because it is worker and creation. Choice (B) is incorrect because it is worker to workplace. Choice (A) is incorrect because the relationship is that of synonyms.
36. B
A centaur is a mythological horse. A mermaid is a mythological fish. The relationship is that of synonyms. Choice (E) is incorrect because it is the relationship of worker and creation. Choices (A) and (C) are incorrect because they are both item to category in relationship. Choice (D) is incorrect because there is no relationship.
37. D
A foot moves against a pedal, as a bat hits against a ball. The relationship is action to object. Choices (A) and (E) are incorrect because the relationship is worker and workplace. Choices (B) and (C) are incorrect because the relationship is object to material.
38. B
We start a car with the ignition; we stop a car with the brake. The relationship is action to object. Choices (D) and (E) are incorrect since the relationship is object to its function. Choices (A) and (C) are incorrect because the relationship is object to its material. A tire needs air; a tank needs gas.
39. A
To push is an extreme touch; to gulp is an extreme sip. All four words are verbs.

The relationship is type to characteristic. Choice (E) is incorrect. While the relationship is similar, the item to category relationship would better fit; both items are drinks. However, the words are nouns and therefore not a true analogy. Choice (D) is incorrect. The words are synonyms. Choice (B) is incorrect; one uses a glass to drink, therefore the relationship is item to function. Choice (C) is incorrect because the words are antonyms.

40. E

Bananas are collected by the bunch; lettuce is collected by the head. The relationship is type to characteristic. Choice (B) is incorrect because the words are synonyms. Choice (C) is incorrect because the words are antonyms. Choice (A) is incorrect because the relationship is item to category—both words represent members of the fowl family. Choice (D) is incorrect because it is object to function; a surgeon performs an operation.

41. B

Cause and effect. An accelerator causes the motion of the car; a catalyst causes the chemical change.

42. A

The relationship is one of degree. Probable is likely, but less likely than certain; plausible is possible, but less likely than definite.

43. B

The relationship is one of true synonyms.

44. D

This analogy involves true antonyms.

45. B

The relationship is that of object to actor. The nucleus is the object that is orbited by an electron; the earth is the object that is orbited by a satellite. Choice (B) reverses the order of the relationship.

46. D

Here the relationship is that of actor to object. A sculptor creates a statue; a composer creates music. An actor performs in a play but does not create it. A programmer creates a program while working at a computer.

47. B

The analogy is based on an antonym relationship.

48. B

This analogy is also based on antonyms.

49. A

It is hard to categorize this relationship. One interrupts by speaking out of turn; one intrudes by entering out of turn. The relationship in choice (D) might be that of opposites.

50. D

The first two terms are true opposites. Only choice (D) offers true opposites. Financial stability is the opposite of poverty, but finance bears no relationship to poverty at all.

51. B

Be careful. Flammable and inflammable are synonyms; both mean easily inflamed. Disinterested means impartial.

52. B

This is a purpose relationship. A tailor follows a pattern to construct a piece of clothing; a builder follows a blueprint to construct a building.

53. B

The relationship is sequential. Impeachment (accusation) comes before dismissal. Arraignment (accusation) comes before indictment (placement of charges).

54. A

The relationship is of characteristic to animal. Choice (E) reverses the relationship.

55. E
All choices except (D) involve the activity of a bodily organ, so you must think further. Both exhalation and perspiration involve giving off something from within the body.

56. D
You celebrate a birth; you grieve over a death. The analogy states the effect and its cause.

57. D
This is an analogy of degree. To urge is to recommend strongly; to plead is to request strongly. Choice (E) offers synonyms of equal degree; choice (B) reverses the order.

58. B
This is a cause-and-effect relationship. When one weeps, one gives off tears; when one breathes, one gives off carbon dioxide.

59. D
The relationship is hard to categorize but easy to spot. An air pocket makes a plane bounce; a rut has the same effect on a vehicle.

60. E
This is a verb-to-noun relationship. Arbitrate is what one does to a dispute; solve is what must be done to a mystery.

SECTION 3, QUANTITATIVE REASONING

1. D
If the average of three numbers is 5, then the $SUM \div 3 = 5$. Therefore, the SUM of the three numbers is $5 \times 3 = 15$. Three times the SUM of 15 is 45.

2. C
Factors are all the numbers that divide a number evenly.
The factors of 15 are;

1 and 15

3 and 5

which result in a total of 4 factors in all.

3. C

This is a problem of multiplication by fractions. To find the number of CDs owned by John, multiply the total number by the fraction he owns.

$$\frac{1}{3} \times 180 = 60$$

4. A

An equilateral triangle is made up of three congruent, or equal sides. To determine the perimeter of a triangle, sum the measure of all three sides.

$$6 + 6 + 6 = 18$$

5. B

There are three unknown pieces in this question. The contribution made by Tyler (T), the contribution made by Sharice (S), and the contribution made by James (J).

The total of all contributions is \$360, so $T + S + J = 360$.

Sharice pays twice as much as James; $S = 2J$.

Tyler pays six times what Sharice does; $T = 6S = 12J$ (from previous statement).

In terms of J, $12J + 2J + J = 360$.

Solving for J, $15J = 360$ so $J = 24$ (amount paid by James). Since James pays \$24, Sharice pays twice that, or \$48.

6. C

If the jacket originally costs x dollars, when it is reduced by half, it costs $x - 0.5x$ dollars or simply $0.5x$ dollars originally (price minus discounted amount). If the new price of $0.5x$ is then discounted another 10%, the resulting price is $0.5x - 0.1(0.5x)$, which equals $0.45x$, or 45% of the original price.

7. E

Since the ratio of green to red gumdrops is 9:5, there are $9x$ green gumdrops and $5x$ red ones.

$$9x + 5x = 56$$

$$14x = 56$$

$$x = 4$$

So there are $9 \times 4 = 36$ green gumdrops.

8. D

The perimeter is equal to the sum of each of the sides. Since all the sides are equal, to determine the length of one side, divide the perimeter by the total number of sides.

$$96 \div 8 = 12$$

9. D

Volume = length \times width \times height. The volume of both boxes is $6 \times 6 \times 10 = 360$.

The volume of the second box is $3 \times 10 \times \text{height} = 360$; therefore, the height of the

$$\text{box is } \frac{360}{3 \times 10} = \frac{360}{30} = 12.$$

10. B

Since each of the 500 attendees donated the same dollar amount, the total amount donated is the product of 500 and y .

11. B

Substitute values $p = 500$, $r = 0.08$, and

$$t = 2 \frac{1}{2}.$$

$$A = 500 + (500)(0.08)2 \frac{1}{2}$$

$$= 500 + 100$$

$$= 600$$

12. A

Corresponding parts of similar triangles are in proportion:

$$\frac{AB}{AC} = \frac{AE}{AD}$$

$$\frac{4}{4+6} = \frac{6}{6+x}$$

$$4(6+x) = 6(4+6)$$

$$24 + 4x = 60$$

$$\frac{-24}{4x} = \frac{-24}{36}$$

$$4x = 36$$

$$x = 9$$

13. A

$$(3K^3)^2 = (3K^3)(3K^3)$$

$$= (3)(3)(K^3)(K^3)$$

$$= 9K^{3+3} \text{ (multiply numbers)}$$

$$= 9K^6 \text{ (add exponents)}$$

14. D

$$\frac{30}{48} = \frac{5}{y}$$

$$30y = 48 \times 5 \text{ (cross-multiply)}$$

$$30y = 240$$

$$y = 8$$

15. C

$$\frac{3}{x} - \frac{5}{x} = \frac{-2}{x}$$

The problem is written with all common denominators. Simply subtract the numerators.

16. C

$$50\% \text{ of } N = 22.97$$

$$50\% = \frac{50}{100} = 0.5 \quad 0.5 \text{ of } N \text{ means}$$

$$0.5 \times N$$

$$0.5 \times N = 22.97 \quad \text{Divide both sides by } 0.5 \text{ to isolate } N.$$

$$\frac{0.5 \times N}{0.5} = \frac{22.97}{0.5}$$

$$N = \frac{22.97}{0.5} = 45.97$$

17. E

First find what percent of Freddie's income is spent on miscellaneous items.

$$50\% + 25\% + 7\% + 5.3\% = 87.3\%$$

$$100\% - 87.3\% = 12.7\%$$

Then find 12.7% of \$480.

$$\text{Amount} = \text{Weekly Net Income} \times \text{Miscellaneous Percent}$$

$$= 480 \times 0.127 = \$60.96$$

18. C

The line described by the equation crosses the x -axis when $y = 0$.

$$0 = 4x + 5$$

$$-5 = 4x$$

$$-\frac{5}{4} = x$$

19. C

To break a number into its prime factors, break it into factors, and break those factors into factors, until you cannot go any further. It doesn't matter what factors you begin with. You will reach the same prime factors.

$$60 = 10 \times 6 = 5 \times 2 \times 3 \times 2$$

5, 3 and 2 are prime numbers (they have no factors other than themselves and 1), and multiplication is commutative (can be performed in any order).

Another way to approach the problem is to rule out the answers that have composite (non-prime) numbers. This rules out choices (B), (D) and (E). Test the remaining answers by multiplying them out. Only choice (C) comes to 60.

20. E

$6a - 2$ can be 3 or -3 .

In the first case,

$$6a - 2 = 3$$

$$6a = 5$$

$$a = \frac{5}{6}$$

In the second case,

$$6a - 2 = -3$$

$$6a = -1$$

$$a = -\frac{1}{6}$$

The only solution that fits the given answers is $\frac{5}{6}$.

21. D

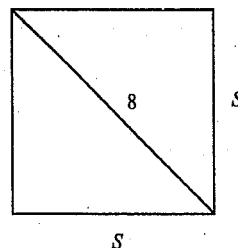
This one is easier to work backward. The total bill will be more than the base amount. Since both tax (10%) and tip (20%) are already included in the total,

try adding 30% to each answer to see which results in a total of \$145.6.

Or, work from the given \$145.6, which represents 130% of the base amount.

Divide 145.6 by 1.3 to get \$112.00.

22. A



If the diagonal of a square is 8, then (by the Pythagorean Theorem), the sides of the square must be $\frac{8}{\sqrt{2}} = \frac{8\sqrt{2}}{2} = 4\sqrt{2}$.

Square this to get the area of 32.

23. C

Rename all fractions as decimal equivalents;

$$\frac{2}{3} = 0.66\bar{6}$$

$$\frac{4}{5} = 0.800$$

$$\frac{5}{6} = 0.833\bar{3}$$

$$\frac{17}{20} = 0.85$$

$$\frac{7}{10} = 0.7$$

$$\frac{13}{15} = 0.866\bar{6}$$

$$\frac{9}{10} = 0.9$$

$\frac{7}{10}$ is the only fraction between $\frac{2}{3}$ and $\frac{4}{5}$.

24. B

Use the formula for circumference;

$$C = \pi d$$

$$= (3.14)(9)$$

$$= 28.26 \text{ inches}$$

25. C

First find the amount Josie bought the shares for;

$$\$180 \times 10 = \$1,800$$

Then find the amount Josie sold the shares for;

$$\$240 \times 10 = \$2,400$$

Finally, subtract: $\$2,400 - \$1,800 = \$600$

SECTION 4: READING COMPREHENSION

Passage 1

1. E

Remember to summarize the main point to yourself before going to the questions. Here, the passage provides a brief history of alchemy. (E) best restates this idea. (A) is incorrect because gold was never actually manufactured.

2. A

Lines 3-5 state that "the alchemist is generally portrayed by historians as a charlatan obsessed with dreams of impossible wealth". In other words, the historians feel that the alchemists were greedy. (A) restates this idea. Be careful of (B); It contains information stated in the passage, but this isn't the view of historians, which is what the question asks for.

3. C

Infer means to draw a conclusion. Read the surrounding lines; They tell you that a "charlatan" was portrayed as obsessively greedy by historians—so you can infer that historians did not respect "charlatans"—(C).

4. B

To determine where this passage most likely came from, you need to consider the author's tone and purpose. Does the passage sound positive, negative, or neutral? Does the author seem to be trying to convince us of something? In fact, the author's tone sounds very detached—as you do when you are explaining something. So a history book is the logical place to find this type of passage. The text doesn't sound like news, so (A) is out.

5. A

To answer this question you need to understand the author's point of view.

The author makes it clear that while alchemy was viewed with disdain by historians, it did make a positive contribution to the sciences. (A) reflects this attitude. Watch out for choices that contain information not expressly stated in the passage—(B), (D) and (E). (C) is tricky: Even though the text says that historians felt alchemy was primitive and superstitious, we don't know if the author thinks this is the case.

6. A

To find the answer, try to use the passage to answer each question. (A) cannot be answered using the passage, which says only that alchemists attempted to change metals into gold and makes no mention of successful attempts. It does not say how alchemists make gold. The other choices can be answered by the passage. (E) is answered in lines 1-2; "change lead, copper, and other metals into silver or gold." (C) is answered in lines 6-7; "alchemists helped develop many of the apparatuses and procedures that are used in laboratories today." (D) is answered in lines 3-5; "the alchemist is generally portrayed by historians as a charlatan obsessed with dreams of impossible wealth." (B) is answered in line 5; "For many centuries... alchemy was a highly respected art."

7. C

This is a main idea question. Although the passage talks about what alchemy is and how alchemists were viewed, those were not the goals of the author, so (A), (B), (D) and (E) are not correct. The author spends lines 6-9 supporting alchemy's influences on modern science, making (C) the answer.

Passage 2

8. B

The first and second sentences of each paragraph usually reveal the paragraph's

topic. In this case, it's the second sentence. Wilson was wrong—war stems not from secret deals by national leaders, but from “unresolved disagreements among nations.”

(C) and (E) summarize the topic of paragraph 1, not paragraph 2. (D) is too general, the paragraph mainly discusses why one form of diplomacy usually fails to avert wars. Not all disagreements among nations lead to war, so (A) is also too broad.

9. B

We're told that Wilson called for an end to secret negotiations as a way to end war, and then that Wilson was wrong, that he “lacked insight into the complexities of international politics”. Clearly, the author disagrees with Wilson. (E) is tempting, given the author's “realpolitik” attitude, but she isn't being Machiavellian, she's simply stating why Wilson's idea was wrong. (C) and (D) are too emotional, and (A) is incorrect because the author doesn't apologize for criticizing Wilson.

10. B

The scenario in (B) is the closest parallel to the author's thinking. As the next-to-last sentence of the passage puts it, “war usually stems from unresolved disagreements among nations... over territory...” (A)'s scenario is an economic trade agreement involving a third country—not very likely to lead to war. The other answer choices involve secret deals or covert activity of the kind that Wilson—not the author—thought would lead to war.

11. A

Look at the last two sentences of the text. According to the author, open diplomacy can't solve the kinds of problems that lead to war. (B)'s assertion that quiet diplomacy will always be with us

doesn't explain why open diplomacy won't prevent war.

12. D

To find the correct answer, try to answer each of the questions in the choices. (C) is in the article “the author says Wilson's first point on diplomacy was wrong”. (A) is in the article; wars usually result from disagreements among nations. (B) is in the article; Wilson supported open (public) diplomacy. (E) is in the article; the author says Wilson lacked insight into the complexities of international politics, and then the author proceeds to present is his or her knowledge or international politics. (D) is the answer because the passage does not tackle ways to eliminate the threat of war.

13. A

To imagine where the author might go next, retrace the steps of the argument; 1) Wilson offered a peace proposal that argued for open diplomacy, which he thought would end wars; 2) Wilson failed to grasp that secret diplomacy is not the cause of most wars, which occur because of unresolved disputes among nations over such things as territory and resources. Having disagreed with Wilson, it's most likely that the author will try to illustrate this last point, by giving an example of a war that occurred because of a territorial or resource dispute. (B), (C) and (D) suggest that the author will return to the subjects of President Wilson or World War I, but the text moves beyond Wilson to discuss the cause of war.

Passage 3

14. C

This is the best answer because the second sentence provides an important reason for what is stated in the first sentence.

The phrase "after all" is the most appropriate way to signal this relationship. (A) the second sentence does not follow as a consequence of the first sentence. (B) the second sentence does not give an alternative to the first sentence. (D) the second sentence does not provide an exception or alternative to the first sentence. (E) the second sentence does not provide an exception, alternative, qualification, or other comment on the first sentence other than a reason for what is stated in the first sentence.

15. D

This is the best answer because it effectively links first paragraph with the rest of the essay. First paragraph states that obedience to authority is necessary and give a reason why it is true, whereas the body of the essay discusses the topic of excessive obedience and its consequences. (A) This does not help link the first paragraph to the rest of the essay. (B) This does not help link the first paragraph to the rest of the essay. (C) Suggesting an example of what is stated in the second sentence does not help link the first paragraph to the rest of the essay. (E) This does not help link the first paragraph to the rest of the essay.

16. E

This corrects the phrase "went toward", which in context is not idiomatic. (A) The phrase "went toward" is not idiomatic in context. (B) This is not idiomatic. (C) This is not grammatical. (D) This does not make good sense.

17. D

This is logical because the sentence provides important information about the experiment described in paragraph 2 that is relevant to what is discussed in the

rest of the essay. The sentence states that the phenomenon discussed in paragraph 2 is probably not confined to the United States, and paragraph 3 discusses whether the phenomenon occurred in Germany. (A) This does not make good sense because "the phenomenon" mentioned in the sentence is not discussed until subsequent sentences. (B) This does not make good sense because the sentence would interrupt this sentence and sentence followed, which are closely related. (C) This makes little sense because an explanation of the experiment has just been given. It makes better sense to give the result of the experiment and then add this information. (E) This makes little sense because it would interrupt this sentence and sentence followed, which are closely related.

18. C

The quotation by Stanley Millgram states what the significance of his experiment might be for society. It offers an explanation for the horrific acts of the Nazis discussed in paragraph 3. (A) The quotation does not cast doubt on the suggestion made in this sentence. (B) The quotation does not offer evidence. (D) The quotation does not give an example. (E) The quotation does not suggest an area for further experimentation.

19. C

Irony is not used by the author. All of the others are used. (A) direct quotation is used in the last paragraph. (B) indirect quotation is used in lines 8-9 and lines 14-16. (D) sighting of evidence is used in lines 9-11. (E) explanation of a procedure is used in lines 6-9.

Passage 4

20. A

This is a main-idea question, and you must choose the most inclusive title for

the entire selection. The selection discusses the value of a cord of wood, a the volume value in the first paragraph and the heating value in the second paragraph.

21. C

This detail question is answered in the third sentence.

22. D

See the last sentence of the first paragraph.

23. E

See the first sentence of the second paragraph.

24. E

See the second sentence of the second paragraph.

Passage 5

25. D

Context should help you here. "... veneration due to its sacred origin..." implies something religious and related to worship.

26. E

This is an inferential question. The speaker probably enjoys and celebrates Christmas, choice (D) as well, but the primary reason for this speech is defending the holiday to his Uncle Scrooge by listing its advantages to mankind.

27. D

This is the whole point of the first paragraph.

28. A

Again, use of the word in context should lead you to its meaning. The paragraph speaks of good will among all men and women. This *one consent* therefore is *unanimous* good feeling.

29. B

Read the last paragraph carefully. Scrooge is first reacting to the clerk who has just applauded the speech in defense of Christmas. Scrooge threatens the clerk with firing. He then turns and makes a

sarcastic remark to his nephew. It can be assumed that he is angry with both characters.

Passage 6

30. D

Choice (B) is contradicted by the last sentence in the passage. Choice (C) is about saturated fat. Choices (A) and (E) apply to monounsaturated fat according to the passage.

31. E

The other answers describe only part of the passage's content. Choice (E) is the most general, and it describes all of the content of the passage.

32. D

The passage says saturated fat is found in meat and dairy products. All of the answers except choice (D) mention a meat or a dairy product.

33. B

According to the passages, choices (A), (D) and (E) are true of polyunsaturated fat, and choice (C) is true of saturated fat.

34. D

The passage contradicts choice (E). The passage does not state whether choice (C) is a fact. Choice (A) is contradicted by the first three sentences of the passage, and choice (B) is contradicted by the last sentence of the passage.

Passage 7

35. E

The passage is about the Silk Road and how our knowledge of the Silk Road was affected by the discovery of a piece of silk. This is essentially what (E) states. (C) is incorrect because it fails to mention the fragment of silk discussed in paragraph 2. (A) and (D) are incorrect because they focus too much on details.

And (B) introduces material which was never discussed.

36. C

Go to the reference lines and see if you can figure out what the term "systems of belief" means. We're told that "systems of belief" were passed along the road. Immediately after that, the spread of Christianity, Buddhism, and Islam are discussed. So we can assume that these three religions are examples of "systems of belief", making (C) the answer. No other choice fits the context.

37. D

We need to find which item was not traded along the Silk Road, so we can eliminate everything that is mentioned in the text. We can definitely eliminate (E), fabrics, since we know that silk was traded. (A) is incorrect as well, since gunpowder is mentioned in the text. (B) and (C) are incorrect as well, since peaches and roses are mentioned.

38. C

The best way to proceed here is to evaluate each answer choice and eliminate anything that doesn't agree with the information in the passage. (E) states that the silk fragment found in Egypt was a fake. But nothing in the passage indicates that this was the case. (A), too, brings up information that we don't know for certain; we aren't told that most Egyptian garments were made of silk. While we are told that it is difficult to know "exactly how traders navigated the plateaus", we are not told that the Egyptians were definitely "unable" to cross plateaus etc., so (D) is out. Neither is (B) supported by the text. Only (C) makes sense; we are told that only the Chinese knew how to make silk in 1000 B.C., so we can assume that

the fragment found in Egypt dating back to 1000 B.C. must have been made in China.

39. D

As you read the text, ask yourself what the author's tone and purpose are. Does the passage sound positive or negative? Does the author seem to be making an emotional appeal or is she just presenting information? Since this is a science passage, the author is unlikely to be too biased. (A), (B), (C) and (E) are all incorrect because they do not fit the tone or purpose here. Only (D) makes sense.

40. E

Although the passage talks about the trade of such items as silk and "roses, peaches, gunpowder, and paper", it also mentions that the Silk Road allowed religions to spread. (C) is contradicted; A recent discovery suggests the road existed at least for 1,000 years before 115 B.C. (B) is incorrect because the article says the silk must have come from Asia because Mediterranean countries hadn't yet developed silk-making technology. (A) is wrong because the author never doubts the existence of the Silk Road. (D) is not something that can be concluded using this passage.

SECTION 5: MATHEMATICS ACHIEVEMENT

1. E

If the tank is $\frac{1}{4}$ empty, it must be $\frac{3}{4}$ full.

$\frac{3}{4}$ the total capacity of 20 gallons is 15.

2. D

The value of choice (A) is $\frac{11}{12}$; the value of choice (B) is $\frac{5}{12}$; the value of choice

(C) is $\frac{1}{3}$ or $\frac{4}{12}$; the value of choice (D)

is $\frac{1}{4}$ or $\frac{3}{12}$; and the value of choice (E)

is $\frac{1}{3}$ or $\frac{4}{12}$. Therefore, choice (D) has the least value.

3. E

If $x + (x + 3) > 35$, then $2x > 32$. So $x >$

16. The only answer that is appropriate is 18.

4. D

The perimeter of a square is found by summing the lengths of each side. Because the lengths are equal on a square, you can multiply one side by 4 to get the perimeter. Therefore, $4s = 100$, so $s = 25$.

5. C

To find the greatest value of the four, assume the remaining three values are the least possible positive integer, 1. The average then is $\frac{1 + 1 + 1 + x}{4} = 7$.

Solve for x . $3 + x = 28$, so $x = 25$.

6. B

Round \$9.95 to \$10.00 and find 40% of 10.

$$40\% = \frac{40}{100} = 0.4$$

$$0.4 \times 10 = 4$$

7. A

Two students make up one fifth of a class.

Translating this into a mathematical equation,

you get $\frac{1}{5}c = 4$.

$$c = 4\left(\frac{5}{1}\right) = 20$$

8. C

Let d represent Don's age now and $d + 7$ represent Don's age 7 years from now.

Let p represent Peter's age now and $p + 8$ represent Don's age now.

Set up mathematical equations for the problem.

$$d = p + 8$$

$$d + 7 = 2p$$

Substitute the value of d in the first equation into the second equation to find p .

$$(p + 8) + 7 = 2p$$

$$p + 15 = 2p$$

$$p = 15$$

9. B

Set up a ratio for this problem and solve;

p represents the number of pieces of candy purchased with c cents $\left(\frac{p}{c}\right)$.

20 pieces of candy can be purchased for x cents $\left(\frac{20}{x}\right)$.

So,

$$\frac{p}{c} = \frac{20}{x}$$

$$px = 20c \text{ (using cross-multiplication)}$$

$$\frac{20c}{p} = x$$

10. E

\$4,500,000 is t times greater than \$75,000.

$$4,500,000 = 75,000t$$

$$t = \frac{4,500,000}{75,000} = 60$$

11. B

This is a 45-45-90 triangle. Since this is true, the base is also 5 units long.

By the Pythagorean Theorem, $v^2 = 5^2 + 5^2 = 25 + 25 = 50$.

12. D

Let o represent the amount of oats eaten and g the amount of grass eaten.

Since twice as many pounds of oats are eaten as grass, $o = \frac{3}{2}g$.

$$o + g = 30$$

Substituting the value for o into $o + g =$

30 gives $\frac{3}{2}g + g = 30$. So, $\frac{5}{2}g = 30$,

and $g = 12$.

13. B

$$2x - 4 = 50$$

$$2x = 54$$

$$x = 27$$

$$27 \div 9 = 3$$

14. D

There are 180° in a triangle and 360° in a rectangle (made up of four 90° angles).

The difference is $360^\circ - 180^\circ = 180^\circ$.

One half of 180° is 90° .

15. E

Let g represent the number of gorillas, and let t represent the number of tigers.

If there are 3 times as many gorillas as tigers, then $g = 3t$.

If there are 3 more tigers than zebras, the $t = z + 3$.

To find the number of gorillas in terms of zebras, substitute the first equation into the second.

Then, $g = 3(z + 3) = 3z + 9$.

16. E

By doubling the denominator of a fraction, we actually divide it by two. By halving one of the factors in the numerator, we also halve the value of the fraction. By doing both, we have actually divided the original value by four. Plug in some values for x , y and z , and try this.

17. E

This is a good problem to estimate.

Since 10% is $\frac{1}{10}$, you can multiply 40 by

10 to approximate the answer.

$$40 \div 0.1 = 400$$

18. C

100 is 20 larger than 80. 20 is one fourth, or 25%, of 80. Therefore, 125% of 80 is equivalent to 100.

19. C

Forty inches equals $3 \frac{1}{3}$ feet. Since $\frac{3}{8}$ "

on the drawing equals 1 foot at full scale.

$$3 \frac{1}{3} \text{ feet} = 3 \frac{1}{3} \cdot \frac{3}{8}$$

$$= \frac{10}{3} \cdot \frac{3}{8}$$

$$= \frac{10}{8}$$

$$= 1 \frac{1}{4}$$

20. B

Bracket the multiplication and division first, and solve the problem.

$$\left(6 \div \frac{2}{3}\right) + \left(\frac{1}{3} \times 9\right)$$

$$= 9 + 3$$

$$= 12$$

21. D

Since $x + 3 < 12$, x can be any number less than 9.

22. C

Substitute the values into the expression.

$$\sqrt{16 + 3(2) + 3}$$

$$= \sqrt{16 + 6 + 3}$$

$$= \sqrt{25}$$

$$= 5$$

23. A

To find the average, find the sum of the addends and divide that sum by the number of addends.

$$-3 + 17 + 0 + -1 + 12 = 25$$

$$25 \div 5 = 5$$

24. A

By substituting $+3$ for the triangle, the denominator of the fraction becomes zero. A denominator of zero is undefined in mathematics.

25. B

Simply move the decimal point one place to the left and insert a zero in the newly created decimal place.

$$0.1011 \div 10 = 0.01011$$