Practice Test 2

SECTION 1: ISSUE TOPIC

Directions:

You will be given a brief quotation that states or implies an issue of general interest and specific instructions on how to respond to that issue. You will have 30 minutes to plan and compose a response in which you develop a position on the issue according to the specific instructions. A response to any other issue will receive a score of zero.

"Studying foodways—what foods people eat and how they produce, acquire, prepare, and consume them—is the best way to gain deep understanding of a culture."

Write an essay in which you take a position on the statement above. In developing and supporting your position, you should consider ways in which the statement might or might not hold true.

SECTION 2: ARGUMENT TOPIC

Directions:

You will be given a short passage that presents an argument, or an argument to be completed, and specific instructions on how to respond to that passage. You will have 30 minutes to plan and compose a response in which you analyze the passage according to the specific instructions. A response to any other argument will receive a score of zero.

Note that you are NOT being asked to present your own views on the subject. Make sure that you respond to the specific instructions and support your analysis with relevant reasons and/or examples.

Fossil evidence indicates that the blompus—an extremely large, carnivorous land mammal—inhabited the continent of Pentagoria for tens of thousands of years until its sudden decline and ultimate extinction about twelve thousand years ago. Scientists have determined that the extinction coincided with a period of significant climate change and with the arrival of the first humans. Some scholars theorize that the climate change so altered the distribution of plants and animals in the environment that the food chain upon which the blompus depended was irretrievably disrupted. Others contend that predation by humans is the more plausible explanation for the rapid population decline.

Write a response in which you discuss specific evidence that could be used to decide between the proposed explanations above.

SECTION 3: VERBAL REASONING

For questions 1 through 6, select one entry for each blank from the corresponding column of choices. Fill all blanks in the way that best completes the text.

The (i)_____ with which a statement is conveyed is frequently more important to the listener in determining the intended meaning than the actual words (ii)_____ . For example, a compliment, when delivered sarcastically, will be perceived by the receiver as fairly insulting.

Blank (i)	Blank (ii)
inflection	implied
pitch	repudiated
accuracy	utilized

Though a film studio produces works that are (i)_____ and artistic, its priorities often dictate that creativity be (ii)_____ to a secondary position since the creative process can (iii)_____ the organization and hierarchy necessary to running a large company.

Blank (i)	Blank (ii)	Blank (iii)
expressive	compared	respond to
tedious	uplifted	conflict with
tiresome	relegated	coexist with

Science and religion each have core tenets that are considered _____ ; however, because some scientific tenets are in conflict with some religious ones, these tenets cannot all be correct.

historic
axiomatic
disputable
ubiquitous
empirical

Although most preventative medical ointments commonly in use would have (i)_____ an infection, the particular one Helen applied to her sores actually, much to her dismay, (ii)_____ her (iii)_____ .

Blank (i)	Blank (ii)	Blank (iii)
surrendered to	contributed to	medicine
exacerbated	detracted from	salve
staved off	disbursed with	affliction

A single (i)_____ remark can easily ruin the career of a politician, so most are trained to avoid such offhand remarks and instead stick to prepared talking points. This training can result in a lack of (ii)_____ , however, and elicit merely (iii)_____ , lukewarm responses from crowds.

Blank (i)	Blank (ii)	Blank (iii)
elated	spontaneity	ardent
glib	equanimity	tepid
pedantic	rigidity	morose

Oscar Wilde's *The Importance of Being Earnest* satirizes the _____ nature of upper crust British society; its characters take trivial concerns seriously while thoughtlessly dismissing important ones.

maladaptive
insincere
unusual
insignificant
shallow

SECTION 3: VERBAL REASONING

For each of Questions 7 to 12, select one answer choice unless otherwise instructed.

Questions 7 through 10 are based on the following reading passage.

In 1798, economist Thomas Robert Malthus stated in his "Essay on the Principle of Population" that "population increases in a geometric ratio, while the means of subsistence increases in an arithmetic ratio." However, Malthus's dire prediction of a precipitous decline in the world's population has not come to pass. The miscalculations in what has come to be known as the Malthus Doctrine are partly due to Malthus's inability to foresee the innovations that allowed vast increases in worldwide wheat production.

In the late nineteenth century, the invention of the tractor staved off a Malthusian disaster. While the first tractors were not particularly powerful, the replacement of animals by machinery meant that land that had been devoted to hay and oats could now be reclaimed for growth of crops for human consumption. Nevertheless, the Malthusian limit might still have been reached if crop yield had not been increased.

A natural way to increase crop yield is to supply the soil with additional nitrogen. In 1909, chemist Fritz Haber succeeded in combining nitrogen and hydrogen to make ammonia, the white powder version of which, when added to the soil, improves wheat production. Haber nitrogen, however, was not widely used until later in the twentieth century, largely due to farmers' resistance to spreading an unnatural substance on their crops. Haber's invention had a further drawback: If applied in incorrect quantities, the wheat crop would grow taller and thicker, eventually toppling over and rotting.

Interestingly, in the late twentieth century the discovery of genetic engineering, which provides a means of increasing rice and maize production, met with equal resistance, this time from the environmental movement. Even without direct genetic engineering, it is likely that science will discover new methods to improve agricultural production.

According to the passage, which of the following is true about Haber nitrogen?

○ Haber nitrogen is more effective at increasing the yield of wheat crops than that of maize or oat crops.

○ Undesired effects can result from the application of surplus quantities of Haber nitrogen.

○ Haber nitrogen was the first non-naturally occurring substance to be applied to crops as fertilizer.

○ Haber nitrogen may not be effective if applied at an improper time in wheat's growth cycle.

○ Farmers were quick to adopt Haber nitrogen because it made their crops grow taller and thicker.

The passage implies all of the following EXCEPT

○ world food production has kept pace with world population growth

○ technological innovation is one factor that allowed for an increase in crop production

○ farmers are not the only group that has opposed artificial efforts to increase crop yield.

○ the Malthusian limit might well have been reached if new methods to increase crop production had not been found

○ a Malthusian disaster would have been ensured if it were not for the invention of genetic engineering

SECTION 3: VERBAL REASONING

Which of the following, if true, would best represent Malthus' contention in the first paragraph?

○ By 2040 the world's population increases marginally, and food production keeps pace with demand.

○ By 2040 the world's population decreases marginally, and food production outstrips demand.

○ By 2040 the world's population remains unchanged, and food production declines slightly.

○ By 2040 the world's population has significantly increased, and food production has increased slightly.

○ By 2040 the world's population has significantly decreased, and food production has decreased slightly.

Which of the following most nearly means the word precipitous, as used in context?

○ anticipated

○ deliberate

○ gradual

○ risky

○ sharp

Questions 11 through 12 are based on the following reading passage.

The dearth of natural resources on the Australian continent is a problem with which government officials there have long struggled. As long distance travel has become less of an obstacle, the tourism industry has become ever more important to the national economy. Tourism represents more than 10 percent of national export earnings annually, and in less developed regions such as the Western Territory, the percentage is much higher.

Unfortunately, this otherwise rosy prospect has one significant cloud on the horizon. In recent years, there has been a move towards returning some of the land to the Aboriginal people. As Western society and culture have flourished on Australian soil, tribal people have been forced ever farther inland in an attempt to maintain their traditional ways of living, a desire that the government has striven to respect.

One of the central beliefs of the Aboriginal religion is that certain natural formations have spiritual significance and must be treated accordingly. Strict guidelines determine who may visit these sites and at what times. Unfortunately, many of these sites are the very natural wonders tourists flock to see. If non-Aboriginal people are forbidden to visit these natural wonders, many may choose not to vacation in a region that sorely needs the income generated by tourism.

The Australian government has dealt with this dilemma thus far by trying to support both sides. The Aboriginal council is still trying to put an end to such use of certain sites, however, and it remains to be seen whether respect for tradition or economic desires will ultimately triumph.

In the context of the passage, which of the following most closely matches the meaning of the phrase "otherwise rosy prospect has one significant cloud on the horizon"?

○ A colorful sunset is marred by a dark storm cloud.

○ A generally promising future has a potential problem.

○ The view is beautiful but partially blocked.

○ The future of the Aboriginal people is doubtful.

○ Although the situation looks good, in reality it is hopeless.

Consider each of the choices separately and select all that apply.

According to the passage, which of the following is a cause of the current dispute between the Aborigines and the Australian government?

☐ economic hardships in certain regions of the country

☐ increasing dominance by European norms and lifestyles

☐ limited natural resources in most of Australia

SECTION 3: VERBAL REASONING

For questions 13 through 16, select the two answer choices that, when used to complete the sentence, fit the meaning of the sentence as a whole and produce completed sentences that are alike in meaning.

George was a mercurial character; one moment he was optimistic about his prospects, and the next he was _____ .

- ☐ immoral
- ☐ hopeful
- ☐ witty
- ☐ morose
- ☐ dour
- ☐ buoyant

Growing up in a wealthy suburb, she felt quite the _____ as she began her first job as a llama caretaker on a rural farm.

- ☐ tyro
- ☐ concierge
- ☐ agronomist
- ☐ cultivator
- ☐ neophyte
- ☐ curator

William Shakespeare's *Macbeth* was based upon a highly _____ version of events that the playwright wrought from Raphael Holinshed's *Chronicles of England, Scotland, and Ireland*; King Duncan's death at the hand of Macbeth comprises the play's only historical truth.

- ☐ anachronistic
- ☐ effusive
- ☐ embellished
- ☐ prosaic
- ☐ serpentine
- ☐ colored

While comic book artists such as Neal Adams demonstrated a more thorough mastery of human anatomy than did the generation that preceded them, some readers wondered whether the superheroes they drew were really supposed to be so _____ that every detail of their musculatures would be visible through their clothing.

- ☐ thewy
- ☐ sinewy
- ☐ superfluous
- ☐ pneumatic
- ☐ flocculent
- ☐ atrophied

SECTION 3: VERBAL REASONING

For each of Questions 17 to 20, select one answer choice unless otherwise instructed.

Questions 17 through 18 are based on the following reading passage.

One of the most curious structures in cellular biology is the telomere, a length of repeated bases located at the end of every chromosome that, unlike the rest of the DNA strand, carries no useful genetic information. While the telomere seems on the surface to be nothing more than a useless afterthought of DNA, a closer look proves that it is not only important, but also crucial to the functioning of any organism. Indeed, without this mundane structure, every cell division would be a step into senescence, and the onset of old age would begin at birth.

Scientists have found that during cell division not every base of the DNA strand can be replicated, and many, especially those near the end, are lost. If, instead of telomeres, our chromosomes stored valuable genetic information at the end of the DNA strand, then cell division would cause our cells to lose the ability to code for certain information. In fact, many ailments associated with normal old age begin only after the telomere buffer has been exhausted through years of cell division.

Consider each of the choices separately and select all that apply.

Which of the following can reasonably be inferred based on the passage?

- ☐ An individual who aged faster than the average person may have had a shorter telomere buffer than the average person.

- ☐ Scientists once believed that telomeres served no useful purpose.

- ☐ If DNA degradation were absent, then telomeres would be less important to human health.

The passage suggests that if telomere buffers did not exist

- ○ problems associated with aging would begin earlier in life

- ○ people would age so rapidly that almost no one would live past childhood

- ○ cellular senescence would probably be prevented by DNA bases

- ○ chromosomes would lose the ability to store genetic codes

- ○ DNA strands would contain only useful genetic information

SECTION 3: VERBAL REASONING

Questions 19 through 20 are based on the following reading passage.

Music education in America emerged in the early eighteenth century out of a desire to ensure that church goers could sing the weekly hymns in tune. In 1721, John Tufts, a minister, penned the first textbook for musical education entitled *An Introduction to the Singing of Psalm Tunes.* Tufts's pedagogical technique relied primarily on rote learning, omitting the reading of music until a student's singing abilities had improved.

In the same year that Tufts's publication emerged, Reverend Thomas Walter published *The Ground and Rules of Music Explained,* which, while also focusing on preparing students to sing religious music, took a note-based approach by teaching students the rudiments of note reading from the onset. The "note versus rote" controversy in music education continued well into the mid-nineteenth century. With no curriculum to guide them, singing school teachers focused on either the rote or note method with little consistency.

The author discusses Walter's pedagogical technique in order to

○ suggest that rote learning is superior to note learning

○ present a contrast with Tufts's educational technique

○ argue that rote learning improves a student's singing ability

○ show the origin of Tufts's educational techniques

○ show that rote learning was inconsistently practiced

Select the sentence in the passage that best describes the endurance of the tension between pedagogical techniques.

SECTION 4: QUANTITATIVE REASONING

For each of Questions 1 to 8, compare Quantity A and Quantity B, using additional information centered above the two quantities if such information is given. Select one of the four answer choices below each question and fill in the circle to the left of that answer choice.

(A) Quantity A is greater.

(B) Quantity B is greater.

(C) The two quantities are equal.

(D) The relationship cannot be determined from the information given.

A symbol that appears more than once in a question has the same meaning throughout the question.

Quantity A	Quantity B
$\dfrac{98^7}{7^{63}}$	$\dfrac{2^7}{7^{49}}$

○ Quantity A is greater.

○ Quantity B is greater.

○ The two quantities are equal.

○ The relationship cannot be determined from the information given.

5 is r percent of 25.

s is 25 percent of 60.

Quantity A	Quantity B
r	s

○ Quantity A is greater.

○ Quantity B is greater.

○ The two quantities are equal.

○ The relationship cannot be determined from the information given.

g and h are positive integers such that the value of g is twice the value of h.

Quantity A	Quantity B
The ratio of g to 1	The ratio of 1 to h

○ Quantity A is greater.

○ Quantity B is greater.

○ The two quantities are equal.

○ The relationship cannot be determined from the information given.

Quantity A	Quantity B
The average (arithmetic mean) of 67, 78, x, and 101	The average (arithmetic mean) of 66, 79, x, and 102

○ Quantity A is greater.

○ Quantity B is greater.

○ The two quantities are equal.

○ The relationship cannot be determined from the information given.

In a certain country, the total weight of recycled newspapers increases annually by 0.79 million tons.

Quantity A	Quantity B
The percent increase in the weight of recycled newspapers in 1989 over 1988	The percent increase in the weight of recycled newspapers in 1990 over 1989

○ Quantity A is greater.

○ Quantity B is greater.

○ The two quantities are equal.

○ The relationship cannot be determined from the information given.

SECTION 4: QUANTITATIVE REASONING

Quantity A	**Quantity B**
The total weight of m peanuts with a weight of $n + 3$ mg each	The total weight of n almonds with a weight of $m + 3$ mg each

○ Quantity A is greater.

○ Quantity B is greater.

○ The two quantities are equal.

○ The relationship cannot be determined from the information given.

Quantity A	**Quantity B**
$5^{27}(575)$	$5^{28}(115)$

○ Quantity A is greater.

○ Quantity B is greater.

○ The two quantities are equal.

○ The relationship cannot be determined from the information given.

Alejandro has a six-sided die with faces numbered 1 through 6. He rolls the die twice.

Quantity A	**Quantity B**
The probability that he rolls two even numbers	The probability that neither number rolled is a multiple of 3

○ Quantity A is greater.

○ Quantity B is greater.

○ The two quantities are equal.

○ The relationship cannot be determined from the information given.

If $4(r - s) = -2$, then what is r, in terms of s ?

○ $\dfrac{-s}{2}$

○ $s - \dfrac{1}{2}$

○ $s - \dfrac{3}{2}$

○ $s + 2$

○ $2s$

At Tenderloin Pharmaceuticals, 25 percent of the employees take the subway to work. Among those who ride the subway, 42 percent transfer from one subway line to another during their commutes, and the rest do not transfer. What percent of all employees transfer lines?

☐ percent

Click on the answer box and type in a number. Backspace to erase.

$$\frac{\left(a + \dfrac{b}{c}\right)}{\left(\dfrac{d}{e}\right)}$$

If the value of the expression above is to be halved by doubling exactly one of a, b, c, d, or e, which should be doubled?
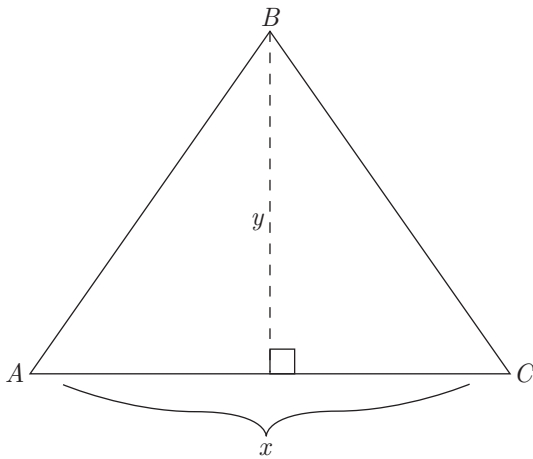
○ a

○ b

○ c

○ d

○ e

SECTION 4: QUANTITATIVE REASONING

$$\left(\sqrt{5}-\sqrt{3}\right)^2=$$

- ○ $2-2\sqrt{15}$
- ○ $2-\sqrt{15}$
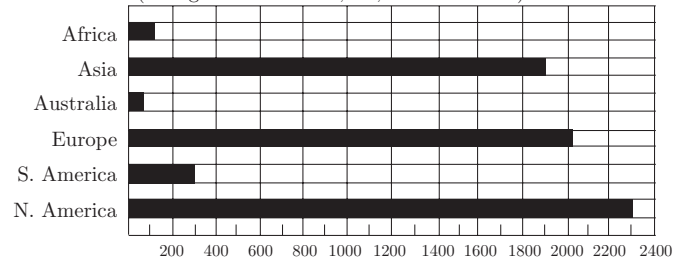- ○ $8-2\sqrt{15}$
- ○ 2
- ○ $8-2\sqrt{5}$

ΔABC has an area of 108 cm². If both x and y are integers, which of the following could be the value of x ?

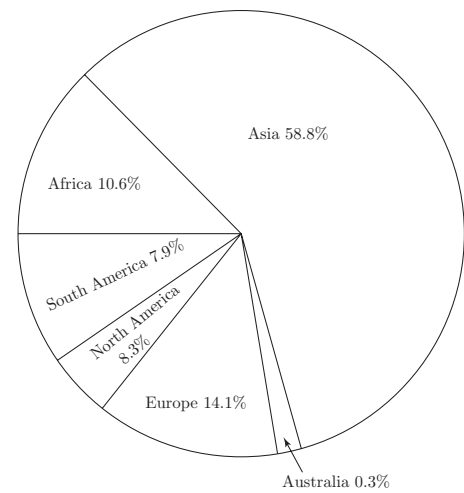Indicate <u>all</u> such values.

- ☐ 4
- ☐ 5
- ☐ 6
- ☐ 8
- ☐ 9

Questions 14 through 16 refer to the following graphs.

WORLD ELECTRICITY PRODUCTION BY
CONTINENT IN YEAR x
(1 megawatt-hour = 1,000,000 watt-hours)

Electricity Production in Megawatt - hours

DISTRIBUTION OF WORLD POPULATION
BY CONTINENT IN YEAR x

In Year x, on which other continent did electricity production most closely equal electricity production in Europe?

- ○ Africa
- ○ Asia
- ○ Australia
- ○ South America
- ○ North America

In Year x, for which continent was the ratio of electricity production to percent of population the greatest?

○ Africa

○ Asia

○ South America

○ Europe

○ North America

In Year x, if South America had a population of approximately 368 million, what was the approximate population, in millions, of Africa?

○ 494

○ 470

○ 274

○ 150

○ 39

The average (arithmetic mean) weight of 5 crates is 250 pounds. The 2 lightest crates weigh between 200 and 205 pounds each, inclusive, and the 2 heaviest crates weigh between 300 and 310 pounds each, inclusive. If the weight of the fifth crate is x pounds, then x is expressed by which of the following?

○ $220 \leq x \leq 250$

○ $230 \leq x \leq 260$

○ $240 \leq x \leq 270$

○ $250 \leq x \leq 270$

○ $260 \leq x \leq 280$

In a certain sequence, $s_1, s_2 \ldots s_x$ if $s_1 = 2$, $s_2 = 2$, $s_3 = 2$, and for $x \geq 4$, $s_x = 2s_{x-1} + s_{x-2}$, what is the value of s_6?

○ 30

○ 34

○ 37

○ 38

○ 40

Y is a point on line segment XZ such that

$XY = \dfrac{1}{2} XZ$. If the length of YZ is $4a + 6$, and the length of XZ is 68, then $a =$

[   ]

Click on the answer box and type in a number. Backspace to erase.

Talk show host Ralph Burke has exactly one guest on his show each day, and Burke's show airs every Monday through Friday. Burke always schedules politicians on Mondays and Wednesdays, actors on Tuesdays and athletes on Thursdays, but can have a guest of any one of these three kinds on Friday. No guest appears more than once per week on Burke's show. If Burke has five politicians, three actors and six athletes he could invite, and if no politician is also an actor or an athlete and no actor is also an athlete, how many different schedules of guests from Monday to Friday could Burke create?

○ 30

○ 1,200

○ 3,600

○ 4,500

○ 6,300

SECTION 5: VERBAL REASONING

For questions 1 through 6, select one entry for each blank from the corresponding column of choices. Fill all blanks in the way that best completes the text.

Despite what _____ philosophies of child-rearing suggest, there is no imperative that the day-to-day action of raising a child be simple, unambiguous, and unchanging—no requirement, in other words, ensures that life follows philosophy.

inexact
aggressive
random
shameless
systematic

All the greatest chess players in the world know that it is folly to be (i) _____ when facing a formidable opponent, as stubbornness will almost surely lead to mistakes that force a player to (ii) _____ to the prevailing strategy of his or her opponent.

Blank (i)	Blank (ii)
finicky	capitulate
obdurate	dissent
vituperative	repudiate

The novel emphasizes the innate (i) _____ of all humans, showing how each and every character within the narrative is, ultimately, (ii) _____ . This motif becomes tiresome due to its (iii) _____ , however, as character after character is bribed, either explicitly or implicitly, into giving up his or her supposedly cherished beliefs.

Blank (i)	Blank (ii)	Blank (iii)
zealousness	adroit	redundancy
corruptibility	cunning	triviality
optimism	venal	subtlety

Although pirating software, such as borrowing a friend's copy of an installation CD or downloading software from unapproved sources is (i) _____ , many people continue to do so (ii) _____ , almost as if they were unaware that such acts amount to theft.

Blank (i)	Blank (ii)
uncommon	savagely
illegal	sensibly
difficult	unabashedly

Having squandered his life's savings on unprofitable business ventures, the _____ entrepreneur was forced to live in squalor.

former
unlikely
insolvent
perturbed
eccentric

Teachers of composition urge their students to (i) _____ in their writing and instead use clear, simple language. Why use a (ii) _____ vocabulary when (iii) _____ phrasing conveys one's meaning so much more effectively?

Blank (i)	Blank (ii)	Blank (iii)
exscind obloquy	recreant	an arcane
eschew obfuscation	redolent	a limpid
evince ossification	recondite	a droll

SECTION 5: VERBAL REASONING

For each of Questions 7 to 11, select one answer choice unless otherwise instructed.

Questions 7 through 8 are based on the following reading passage.

Neurobiologists have never questioned that axon malfunction plays a role in neurological disorders, but the nature of the relationship has been a matter of speculation. George Bartzokis's neurological research at UCLA suggests that many previously poorly understood disorders such as Alzheimer's disease may be explained by examining the role of the chemical compound myelin.

Myelin is produced by oligodendrocyte cells as a protective sheathing for axons within the nervous system. As humans mature and their neurochemistries grow more complex, oligodendrocyte cells produce increasing amounts of myelin to protect the byzantine circuitry inside our nervous systems. An apt comparison may be to the plastic insulation around copper wires. Bereft of myelin, certain areas of the brain may be left vulnerable to short circuiting, resulting in such disorders as ADHD, schizophrenia, and autism.

Consider each of the choices separately and select all that apply.

It can be inferred from the passage that the author would be most likely to agree with which of the following statements regarding the role of myelin?

- ☐ The levels of myelin in the brain can contribute to the neurological health of individuals.

- ☐ Increasing the levels of myelin in the brain can reverse the effects of neurological damage.

- ☐ The levels of myelin in the brain are not fixed throughout the lifetime of an individual.

In the context in which it appears, byzantine most nearly means

- ○ devious

- ○ intricate

- ○ mature

- ○ beautiful

- ○ electronic

The cost of operating many small college administrative offices is significantly reduced when the college replaces its heavily compensated administrative assistants with part-time work-study students whose earnings are partially subsidized by the government. Therefore, large universities should follow suit, as they will see greater financial benefits than do small colleges.

In the above argument it is assumed that

- ○ replacing administrative assistants with work-study students is more cost-effective for small colleges than for large universities

- ○ large universities usually depend upon small colleges for development of money-saving strategies

- ○ the financial gains realized by large universities would not be as great were they to use non-work-study students in place of the administrative assistants

- ○ work-study students at large universities could feasibly fulfill a similar or greater proportion of administrative assistant jobs than what they could at small colleges

- ○ the smaller the college or university, the easier it is for that college or university to control costs

SECTION 5: VERBAL REASONING

Questions 10 through 11 are based on the following reading passage.

The nineteenth century marked a revolutionary change in the way wealth was perceived in England. As landed wealth gave way to monied wealth, investments became increasingly speculative.

A popular investment vehicle was the three-percent consol which took its name from the fact that it paid three pounds on a hundred pound investment. The drawback to the consol was that once issued, there was no easy way for the government to buy back the debt. To address the problem, the British government instituted a sinking fund, using tax revenue to buy back the bonds in the open market. The fact that the consol had no fixed maturity date ensured that any change in interest rate was fully reflected in the capital value of the bond. The often wild fluctuation of interest rates ensured the consol's popularity with speculative traders.

Which of the following best describes the relationship of the first paragraph of the passage to the passage as a whole?

○ It provides a generalization which is later supported in the passage.

○ It provides an antithesis to the author's main argument.

○ It briefly compares two different investment strategies.

○ It explains an investment vehicle that is later examined in greater detail.

○ It provides a historical framework by which the nature of the nineteenth-century investor can more easily be understood.

In the second paragraph, select the sentence that describes a solution to a problem.

For questions 12 through 15, select the two answer choices that, when used to complete the sentence, fit the meaning of the sentence as a whole and produce completed sentences that are alike in meaning.

Owing to a combination of its proximity and _____ atmosphere, Mars is the only planet in our solar system whose surface details can be discerned from Earth.

☐ viscous

☐ ossified

☐ rarefied

☐ estimable

☐ copious

☐ meager

Using the hardships of the Joad family as a model, John Steinbeck's *The Grapes of Wrath* effectively demonstrated how one clan's struggles epitomized the _____ experienced by an entire country.

☐ reticence

☐ adversity

☐ repudiation

☐ quiescence

☐ verisimilitude

☐ tribulation

SECTION 5: VERBAL REASONING

The Mayan pyramid of Kukulkan is more than just _____ edifice; this imposing structure was built to create a chirping echo whenever people clap their hands on the staircase. This echo sounds just like the chirp of the Quetzal, a bird which is sacred in the Mayan culture.

- ☐ a venerable
- ☐ a humble
- ☐ a beguiling
- ☐ an august
- ☐ a specious
- ☐ a prosaic

Some wealthy city-dwellers become enchanted with the prospect of trading their hectic schedules for a bucolic life in the countryside, and they buy property with a pleasant view of farmland—only to find the stench of the livestock so _____ that they move back to the city.

- ☐ bovine
- ☐ pastoral
- ☐ noisome
- ☐ atavistic
- ☐ olfactory
- ☐ mephitic

For each of Questions 16 to 20, select one answer choice unless otherwise instructed.
Questions 16 through 18 are based on the following reading passage.

Often the most influential developments initially appear to be of minor significance. Consider the development of the basic stirrup for example. Without stirrups horse and rider are, in terms of force, separate entities; lances can be used from horseback, but only by throwing or stabbing, and mounted warriors gain only height and mobility. In medieval times, a lance couched under the rider's arm, unifying the force of rider and weapon, would throw its wielder backwards off the horse at impact. Stirrups unify lance, rider, and horse into a force capable of unprecedented violence. This development left unusually clear archaeological markers: With lethality assured, lances evolved barbs meant to slow progress after impact, lest the weight of body pull rider from horse. The change presaged the dominance of mounted combat, and increasingly expensive equipment destroyed the venerable ideal of freeman warriors. New technology demanded military aristocracy, and chivalric culture bore its marks for a millennium.

The primary purpose of the passage is to

- ○ discuss the influence of a recent archeological discovery
- ○ explore the societal significance of a technological innovation
- ○ assess the state of research in a given field
- ○ lament the destruction of certain social ideals
- ○ explicate the physics of combat artillery

SECTION 5: VERBAL REASONING

It can be inferred from the passage that the author believes which of the following about innovations in military technology?

○ Their study merits additional research.

○ They had more lasting influence than did those of the ancient world.

○ Most of them had equally far-reaching repercussions.

○ Prior to their application, the military value of horses was considered insignificant.

○ Many of them are archaeologically ambiguous.

Select the sentence in the passage in which the author cites the physical effects of a technological innovation being discussed as an example of a previous generalization.

Questions 19 through 20 are based on the following reading passage.

Few mathematical constructs seem as conceptually simple as that of randomness. According to the traditional definition, a number is random if it is chosen purely as the result of a probabilistic mechanism such as the roll of a fair die. In their groundbreaking work regarding complexity and the limitations of formal systems, mathematicians Gregory Chaitin and A.N. Kolmogorov force us to consider this last claim more closely.

Consider two possible outcomes of throwing a fair die three times: first, 1, 6, and 2; second 3, 3, and 3. Now let us construct two three-member sets based on the results. Though the first set—{1,6,2}—intuitively seems more random than the second—{3,3,3}, they are each as likely to occur, and thus according to the accepted definition, must be considered equally random. This unwelcome result prompts Chaitin and Kolmogorov to suggest the need for a new standard of randomness, one that relies on the internal coherence of the set as opposed to its origin.

Which of the following best describes the organization of the passage as whole?

○ A concept is introduced; a traditional definition is put forward; a thought experiment is described; a new definition is proposed; the traditional definition is amended as a result.

○ A concept is introduced; a traditional definition is supported by authorities; a thought experiment is described; the implications of the experiment are discussed.

○ A concept is introduced; a traditional definition is considered and rejected; a thought experiment is described; a new definition is proposed.

○ A concept is introduced; a traditional definition is called into question; a thought experiment is described; the implications of the experiment are discussed.

○ A concept is introduced; authorities are called in to reevaluate a definition; a thought experiment is described; the implications of the experiment are considered and rejected.

Consider each of the choices separately and select all that apply.

Which of the following is an inference made in the passage above?

☐ The results of the same probabilistic mechanism will each be as likely as the other to occur.

☐ According to the traditional definition of randomness, two numbers should be considered equally random if they result from the same probabilistic mechanism.

☐ Different probabilistic mechanisms are likely to result in similar outcomes.

SECTION 6: QUANTITATIVE REASONING

For each of Questions 1 to 7, compare Quantity A and Quantity B, using additional information centered above the two quantities if such information is given. Select one of the four answer choices below each question and fill in the circle to the left of that answer choice.

(A) Quantity A is greater.
(B) Quantity B is greater.
(C) The two quantities are equal.
(D) The relationship cannot be determined from the information given.

A symbol that appears more than once in a question has the same meaning throughout the question.

$$\frac{x}{6} + 2 = \frac{6}{2}$$

$$\frac{y}{3} + 2 = \frac{9}{3}$$

Quantity A	Quantity B
$\dfrac{(x-1)}{y}$	$\dfrac{(y-1)}{x}$

○ Quantity A is greater.

○ Quantity B is greater.

○ The two quantities are equal.

○ The relationship cannot be determined from the information given.

Quantity A	Quantity B
The distance that Bob drives in 3 hours at an average speed of 44 miles per hour	The distance that Inez drives in 2 hours and 30 minutes at an average speed of 50 miles per hour

○ Quantity A is greater.

○ Quantity B is greater.

○ The two quantities are equal.

○ The relationship cannot be determined from the information given.

The height of a rectangular solid is increased by p percent, its depth is decreased by p percent and its width is unchanged.

Quantity A	Quantity B
The volume of the new rectangular solid if $p = 20$	The volume of the new rectangular solid if $p = 40$

○ Quantity A is greater.

○ Quantity B is greater.

○ The two quantities are equal.

○ The relationship cannot be determined from the information given.

In $\triangle ABC$, $AB = AC$

Quantity A	Quantity B
The sum of the degree measures of angle B and angle C	90

○ Quantity A is greater.

○ Quantity B is greater.

○ The two quantities are equal.

○ The relationship cannot be determined from the information given.

12.5 percent of k is 80.
k is y percent of 80.

Quantity A	Quantity B
y	650

○ Quantity A is greater.

○ Quantity B is greater.

○ The two quantities are equal.

○ The relationship cannot be determined from the information given.

SECTION 6: QUANTITATIVE REASONING

Set $P = \{a, b, c, d, e, f, g\}$

Set $Q = \{a, b, c, d, e, f\}$

a, b, c, d, e, f, and g are distinct integers

Quantity A	**Quantity B**
Range of Set P	Range of Set Q

○ Quantity A is greater.

○ Quantity B is greater.

○ The two quantities are equal.

○ The relationship cannot be determined from the information given.

Sequence F is defined as $F_n = F_{(n-1)} + 3$ and $F_1 = 10$.

Quantity A	**Quantity B**
The sum of F_4 through F_{10}	The sum of F_6 through F_{11}

○ Quantity A is greater.

○ Quantity B is greater.

○ The two quantities are equal.

○ The relationship cannot be determined from the information given.

A number, n, is multiplied by 6 and the product is increased by 24. Finally, the entire quantity is divided by 3. Which of the following is an expression for these operations, in terms of n ?

○ $\dfrac{n}{3} + 8$

○ $\dfrac{n + 24}{2}$

○ $2n + 8$

○ $3n + 24$

○ $16n$

The average (arithmetic mean) of a and b is 10, and the average of c and d is 7. If the average of a, b, and c is 8, what is the value of d ?

Click on the answer box and type in a number. Backspace to erase.

In the xy-plane, square $ABCD$ has vertices at A (3, 7), B (3, 12), C (8, x), D (8, y). What is the area of $ABCD$?

○ 16

○ 20

○ 25

○ 30

○ 36

Houses Sold in July		
Week	Peter	Dylan
Week 1	4	9
Week 2	6	3
Week 3	10	10
Week 4	4	2

The table above shows the number of houses sold per week for the month of July by two real estate agents, Peter and Dylan. What is the difference between the median number of houses sold per week by Dylan and the median number of houses sold per week by Peter?
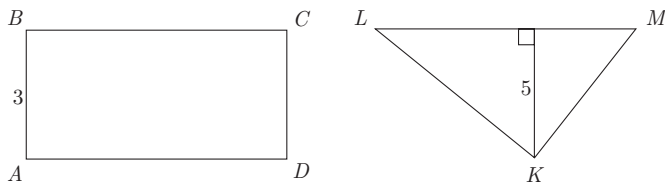
○ 0

○ 1

○ 2

○ 5

○ 6

SECTION 6: QUANTITATIVE REASONING

At Flo's Pancake House, pancakes can be ordered with any of six possible toppings. If no toppings are repeated, how many different ways are there to order pancakes with three toppings?
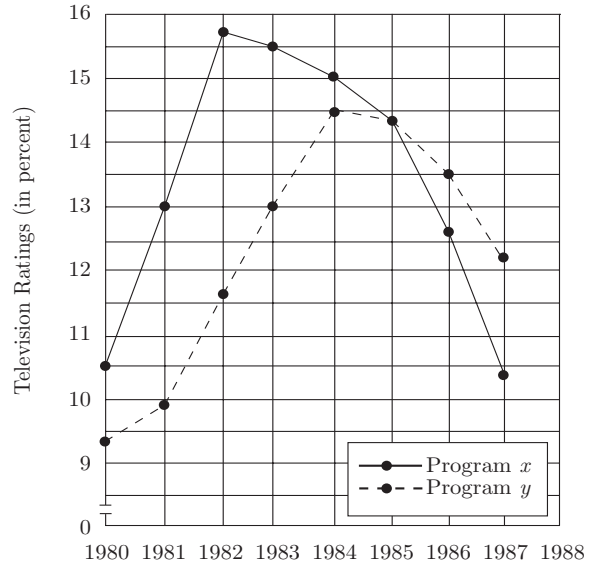
○ 20

○ 40

○ 54

○ 120

○ 720

The area of triangle *KLM* is equal to the area of rectangle *ABCD.* If the perimeter of *ABCD* is 16, what is the length of *LM* ?

○ $\dfrac{3}{2}$

○ 3

○ $\dfrac{16}{5}$

○ 5

○ 6

Questions 14 through 16 refer to the following graph.

TELEVISION RATINGS* IN THE UNITED STATES
1980–1987

*Ratings equal the percent of television households in the United States that viewed the program.

For how many of the years shown did the ratings for Program *y* increase over the ratings for Program *y* in the previous year?

○ Two

○ Three

○ Four

○ Five

○ Six

SECTION 6: QUANTITATIVE REASONING

In 1995, there were 95 million television households in the United States. In 1983, if the number of television households was 80 percent of the number of television households in 1995, then approximately how many television households, in millions, viewed Program y in 1983 ?

○ 80

○ 76

○ 15

○ 12

○ 10

In 1984, there were 80 million television households in the United States. If 65 million television households viewed neither Program x nor Program y, then approximately how many of the television households, in millions, in the United States viewed both Program x and Program y ?

○ 8.6

○ 11.9

○ 16.5

○ 23.2

○ 23.6

Each of the 576 houses in Tenantville is owned by one of the following landlords: Matt, Gavin, Angela, or Susan. Matt and Angela together own twice as many houses as Gavin and Susan own. If Gavin owns 100 more houses than Susan owns, and Matt owns 100 more houses than Angela owns, how many houses does Susan own?

○ 46

○ 142

○ 146

○ 192

○ 242

One-fourth of the cars that an automobile manufacturer produces are sports cars, and the rest are sedans. If one-fifth of the cars that the manufacturer produces are red and one-third of the sports cars are red, then what fraction of the sedans is red?

Click on each box and type in a number. Backspace to erase.
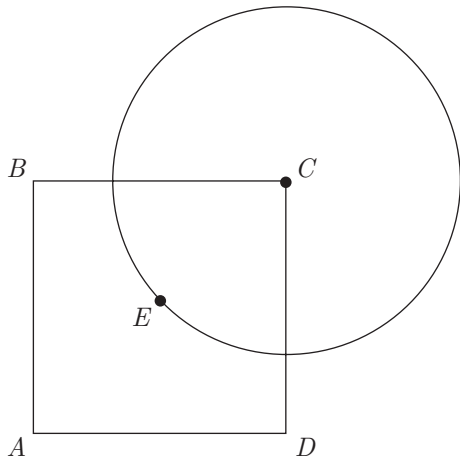
A candy jar has 4 lime, 10 cherry, 8 orange, and x grape candies. If Tom selects a candy from the jar at random and the probability that he selects an orange candy is greater than 20 percent, which of the following could be the value of x ?

Indicate all such values.

☐ 10

☐ 14

☐ 18

☐ 22

☐ 24

☐ 28

Square $ABCD$ and a circle with center C intersect as shown. If point E is the center of $ABCD$ and if the radius of circle C is k, then what is the area of $ABCD$, in terms of k ?

- $\dfrac{k^2}{2\pi}$

- $\dfrac{\pi k^2}{2}$

- πk^2

- k^2

- $2k^2$