

CHAPTER 20: ISEE PRACTICE TEST 1: UPPER- AND MIDDLE-LEVEL

HOW TO TAKE THIS PRACTICE TEST

Before taking this practice test, find a quiet room where you can work uninterrupted for three hours. Make sure you have a comfortable desk and several No. 2 pencils.

Use the answer sheet provided to record your answers. (You can cut it out or photocopy it.)

Once you start this practice test, don't stop until you have finished. Remember—you can review any questions within a section, but you may not go backward or forward a section.

You'll find answer explanations following the test.

Note: There are no major differences between the Middle- and Upper-level ISEE tests, and most of the questions on both tests are appropriate to either the Middle or Upper levels.

The practice test here covers both levels. If you are taking this as a Middle-level test, you may find a few of the questions to be too difficult. Don't worry—just do the best you can, and know that on Test Day, you will see only those questions that are appropriate to your level. Remember, too, that your scores will be based on how you compare to others taking the Middle-level test.

Good luck.

ISEE Practice Test 1: Upper- and Middle-Level Answer Sheet

Remove (or photocopy) the answer sheet and use it to complete the practice test.

Start with number 1 for each section. If a section has fewer questions than answer spaces, leave the extra spaces blank.

SECTION

1

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SECTION

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section 2

wrong in
section 2

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right in
section 3

wrong in
section 3

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right in
section 4

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section 4

SECTION 1

Time—20 Minutes

40 Questions

This section consists of two different types of questions. There are directions for each type.

Each of the following questions consists of one word followed by five words or phrases. Select the one word or phrase whose meaning is closest to the word in capital letters.

1. EXCESS:

- (A) exit
- (B) surplus
- (C) disorder
- (D) end

2. REIMBURSE:

- (A) punish
- (B) divert
- (C) compensate
- (D) recollect

3. ASTOUND:

- (A) stun
- (B) laugh
- (C) suspend
- (D) scold

4. MASSIVE:

- (A) high
- (B) inferior
- (C) huge
- (D) ancient

5. DIN:

- (A) departure
- (B) clamor
- (C) code
- (D) supper

6. SCARCE:

- (A) delicious
- (B) afraid
- (C) thin
- (D) rare

7. DECEIT:

- (A) civility
- (B) trickery
- (C) rudeness
- (D) despair

8. HALLOWED:

- (A) carved
- (B) distinguished
- (C) empty
- (D) sacred

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9. APPREHENSION:

- (A) appreciation
- (B) worry
- (C) aggravation
- (D) elevation

10. BLEAK:

- (A) charming
- (B) warm
- (C) drowsy
- (D) dreary

11. OFFEND:

- (A) divulge
- (B) betray
- (C) soothe
- (D) insult

12. VIGOROUS:

- (A) robust
- (B) hungry
- (C) destructive
- (D) lovely

13. DESPONDENT:

- (A) heightened
- (B) annoyed
- (C) relaxed
- (D) depressed

14. SATIATE:

- (A) prolong
- (B) elongate
- (C) seal
- (D) satisfy

15. SPONTANEOUS:

- (A) impulsive
- (B) excitable
- (C) ingenious
- (D) dazzling

16. WAN:

- (A) short
- (B) pale
- (C) foreign
- (D) insincere

17. ABHOR:

- (A) despise
- (B) horrify
- (C) avoid
- (D) deny

18. APPARITION:

- (A) clothing
- (B) ghost
- (C) guard
- (D) wall

19. BENEVOLENT:


- (A) disobedient
- (B) charitable
- (C) sensitive
- (D) widespread

20. TOLERANT:

- (A) open-minded
- (B) friendly
- (C) grave
- (D) ambitious

Directions: Select the word(s) that best fit the meaning of each sentence.

21. The ____ writer was on her 12th novel.
(A) myopic
(B) prolific
(C) nefarious
(D) elusive
22. Though underfunded, the school made the best of its ____ resources.
(A) meager
(B) emphatic
(C) acrid
(D) belittled
23. The advent of the computer chip made Frank's job _____.
(A) exuberant
(B) eminent
(C) belligerent
(D) obsolete
24. All efforts to save the nature preserve proved _____.
(A) inextricable
(B) insular
(C) glib
(D) futile
25. Except for periods where they function as "loners," wolves are generally ____ animals, living in packs.
(A) carnivorous
(B) fearsome
(C) social
(D) wild
26. The company employed many unproductive employees who had a(n) ____ approach to their work.
(A) creative
(B) discontented
(C) independent
(D) lackadaisical
27. The recent forest fire, which ____ the mountains of Indonesia, was the most severe ____ disaster the region has ever experienced.
(A) destroyed .. inflammable
(B) devastated .. environmental
(C) singed .. intangible
(D) burned .. scientific
28. Despite his ____ beginnings as the son of a minor tribal chieftain, the warrior became one of the greatest ____ in Asia.
(A) humble .. rulers
(B) luxurious .. leaders
(C) innocent .. monarchs
(D) regal .. kings
29. Although Angela was an interior decorator, her home was ____ decorated.
(A) sufficiently
(B) impressively
(C) modestly
(D) amply
30. Beneath the calm surface of the lake, marine creatures ____ continually for food.
(A) qualified
(B) survived
(C) contested
(D) gathered

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31. The captain demonstrated his _____ for the crew by bellowing his commands in a harsh voice.
- (A) admiration
(B) contempt
(C) reverence
(D) affinity
32. The ballet dancers performed with a grace and _____ that left the audience breathless.
- (A) hilarity
(B) ineptitude
(C) elegance
(D) reserve
33. I did not set out to _____ my classmate; I meant well, but my words came across as _____.
- (A) irk .. affable
(B) offend .. gauche
(C) ostracize .. sincere
(D) impress .. confused
34. The volunteer association _____ people with a wide range of _____ to staff their offices.
- (A) recruited .. attributes
(B) fired .. skills
(C) rejected .. experiences
(D) hired .. tendencies
35. In spite of her _____ work, Joanne did not receive a promotion.
- (A) tardy
(B) industrious
(C) irate
(D) occasional
36. The sky jumper was _____ to survive after his parachute operated _____.
- (A) unable .. perfectly
(B) anxious .. instinctively
(C) surprised .. adequately
(D) fortunate .. improperly
37. The puppy was _____ to discipline and whined when reprimanded by its new owner.
- (A) anxious
(B) unaccustomed
(C) jovial
(D) used
38. At one time, historians spoke of ancient Greece as though its cultural and scientific achievements were wholly _____, whereas it is now generally recognized that at least some Greek science and culture was _____.
- (A) primitive .. simple
(B) original .. derivative
(C) mistaken .. dubious
(D) successful .. significant
39. Jeremy has a(n) _____ personality and is very uncomfortable in social situations.
- (A) jolly
(B) introverted
(C) outgoing
(D) gregarious
40. After the military government banned the opposing political party, its members continued to meet in _____ groups.
- (A) clandestine
(B) amicable
(C) sanctioned
(D) elaborate

SECTION 2

Time—35 Minutes

37 Questions

In this section there are four possible answers after each question. Choose which one is best. You may use the blank space at the right of the page for scratch work.

Note: Figures are drawn with the greatest possible accuracy, UNLESS stated "Not Drawn to Scale."

1. Two radii of a circle combine to form a diameter if they meet at an angle whose measure in degrees is

(A) 90 degrees
(B) 120 degrees
(C) 180 degrees
(D) 240 degrees

USE THIS SPACE FOR FIGURING.

2. The price of a stock doubled from Monday to Tuesday. What is the percent increase in the price of the stock from Monday to Tuesday?

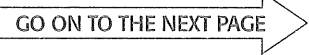
(A) 50%
(B) 100%
(C) 150%
(D) 200%

3. Which of the following is true?

(A) $0.2 \times 0.2 = 0.4$
(B) $0.2 \times 2 = 0.04$
(C) $\frac{0.2}{2} = 0.1$
(D) $\frac{0.2}{0.1} = 0.01$

4. A square has a perimeter of 8. What is the length of one of its sides?

(A) 2
(B) 4
(C) 8
(D) 16

GO ON TO THE NEXT PAGE 

USE THIS SPACE FOR FIGURING.

5. All of the following are equal to $\frac{1}{3}$ EXCEPT

- (A) $\frac{6}{18}$
- (B) $\frac{10}{30}$
- (C) $\frac{11}{33}$
- (D) $\frac{7}{24}$

6. If N is an integer, which of the following MUST be odd?

- (A) $2N$
- (B) $N + 1$
- (C) $2N + 1$
- (D) $3N + 1$

7. If $\frac{700}{x} = 35$, then $x =$


- (A) 2
- (B) 5
- (C) 20
- (D) 200

8. Which of the following is closest to 15%?

- (A) $\frac{1}{7}$
- (B) $\frac{1}{5}$
- (C) $\frac{1}{4}$
- (D) $\frac{1}{3}$

9. When A is divided by 5 it leaves a remainder of 3. What is the remainder when $A + 2$ is divided by 5?

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

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10. The difference between 30% of 400 and 15% of 400 is

(A) 200
(B) 150
(C) 60
(D) 30

11. If $\frac{x}{3} = \frac{y}{6} = 3$, what is the value of $x + y$?

(A) 27
(B) 21
(C) 18
(D) 9

12. In the triangle in Figure 1, $x =$

(A) 50
(B) 60
(C) 80
(D) 100

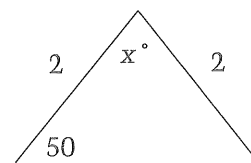


Figure 1

13. In Figure 2, if triangle ABC and triangle CED are equilateral, then the measure in degrees of angle BCE is

(A) 60
(B) 90
(C) 120
(D) 180

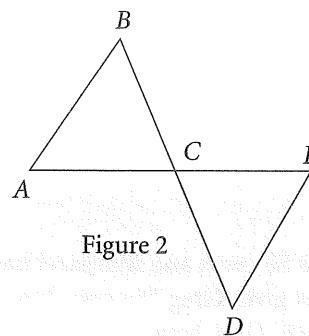


Figure 2

14. If 9 is added to the product of 12 and 4, the result is

(A) 17
(B) 25
(C) 57
(D) 84

15. If 45 is divided by the product of 3 and 5, the result is

(A) 3
(B) 5
(C) 9
(D) 15

USE THIS SPACE FOR FIGURING.

16. Joe shoveled snow for $2\frac{1}{3}$ hours in the morning and then for another $1\frac{3}{4}$ hours in the afternoon. How many hours did he shovel in total?

(A) $3\frac{1}{6}$
(B) $3\frac{5}{6}$
(C) $4\frac{1}{12}$
(D) 7

17. All of the following are factors of 27 EXCEPT

(A) 1
(B) 3
(C) 7
(D) 27

18. Greg has 50 cents and Margaret has \$5. If Margaret gives Greg 75 cents, how much money will Greg have?

(A) \$1
(B) \$1.25
(C) \$1.50
(D) \$5.50

USE THIS SPACE FOR FIGURING.

19. $\frac{1}{2} + \frac{1}{6} =$

(A) $\frac{1}{3}$

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

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

(D) $\frac{1}{12}$

20. How many integers are there from 1,960 to 1,980, inclusive?

(A) 10

(B) 20

(C) 21

(D) 30

21. If
- $n^* = 2n + 4$
- , what is the value of
- 10^*
- ?

(A) 14

(B) 24

(C) 40

(D) 44

22. If
- $a + b = 6$
- , then which expression is equal to
- b
- ?

(A) $b = a - 6$

(B) $b = 6 - a$

(C) $b = 6a$

(D) $b = \frac{6}{a}$

Directions: In questions 23–37, note the given information, if any, and then compare the quantity in Column A to the quantity in Column B. Choose on you answer sheet grid

- A if the quantity in Column A is greater
 B if the quantity in Column B is greater
 C if the two quantities are equal
 D if the relationship cannot be determined from the information given

Column A

Column B

USE THIS SPACE FOR FIGURING.

23.

$$3 + 4$$

$$3 \times 4$$

24.

$$1,000 - 3.45002$$

$$1,000 - 3.45601$$

The ages of the 5 members of a certain family are
 8, 12, 16, 20, and 24.

25.

The average (arithmetic
 mean) age of the 5
 family members

16

The price of one grapefruit is \$0.45, and the price
 of a bag of oranges is \$2.45.

26.

The price of a
 grapefruit

The price of
 an orange

27.


Area of a triangle
 with a base of 6
 and a height of 10

Area of a triangle
 with a base of 12
 and a height of 5

28.

$$\frac{1}{4} \text{ of } 12,948$$

$$25\% \text{ of } 12,948$$

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Column A

Column B

USE THIS SPACE FOR FIGURING.

29.

n

n^2

30.

$2(2x + 1)$

$4x + 4$

31.

$\frac{1}{4} + \frac{5}{8} + \frac{11}{12}$

$\frac{3}{16} + \frac{3}{7} + \frac{2}{9}$

32.

$9.9999 - 2$

$0.99999 + 7$

$10M + 2 = 32$

33.

3

M

34.

5% of 100

100% of 5

35.

$\frac{1}{4}$

$0.2569 - 0.007$

A sweater sells for \$60.

36.

The price of the
sweater after a
10% discount

\$50

37.

4.23×8

37.2×8

IF YOU FINISH BEFORE TIME IS CALLED, YOU MAY CHECK YOUR WORK ON
THIS SECTION ONLY. DO NOT TURN TO ANY OTHER SECTION IN THE TEST.

STOP

SECTION 3


Time—35 Minutes

36 Questions

Read each passage carefully and then answer the questions about it. For each question, decide on the basis of the passage which one of the choices best answers the question.

The word “chocolate” is a generic term used to describe a variety of foods made from the seeds, or beans, of the cacao tree. The first people known to have consumed chocolate were the Aztecs, who (5) used cacao seeds to brew a bitter, aromatic drink. It was not until the Mexican expedition of Hernan Cortes in 1519, however, that Europeans first learned of cacao. Cortes came to the New World primarily in search of gold, but his interest was (10) apparently also piqued by the Aztecs’ peculiar beverage, for when he returned to Spain, his ship’s cargo included three chests of cacao beans. It was from these beans that Europe experienced its first taste of what seemed a very exotic beverage. The (15) drink soon became popular among those wealthy enough to afford it, and over the next century cafes specializing in chocolate drinks began to spring up throughout Europe.

1. As used in line 1, the word “generic” means
 - (A) scientific
 - (B) technical
 - (C) general
 - (D) obscure
2. The passage suggests that chocolate foods can be
 - (A) unhealthy if consumed in excessive quantities
 - (B) one of the staples of a society’s diet
 - (C) made from part of the cacao tree
 - (D) made from ingredients other than the cacao tree
3. It can be inferred from the passage that Cortes journeyed to Mexico mainly in order to
 - (A) conquer the Aztecs
 - (B) increase his personal wealth
 - (C) claim new land for Spain
 - (D) gain personal glory
4. The author implies in lines 9–14 that Cortes found the Aztecs’ chocolate drink to be
 - (A) sweet
 - (B) relaxing
 - (C) stimulating
 - (D) strange
5. The passage suggests that most of the chocolate consumed by Europeans in the 1500s was
 - (A) expensive
 - (B) candy
 - (C) made by Aztecs
 - (D) made by Cortes
6. All of the following questions can be answered in the passage EXCEPT:
 - (A) Did Cortes return to Europe with gold?
 - (B) How did the Aztecs consume chocolate?
 - (C) Were cacao beans well received in Europe?
 - (D) Who were the first people to enjoy chocolate?

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- It has been known for some time that wolves live and hunt in hierarchically structured packs, organized in a kind of “pecking order” similar to that found in flocks of birds. At the top of the hierarchy in any wolf pack are the senior males, dominating the others in all matters of privilege and leadership. As many as three other distinct subgroups may exist within a pack: mature wolves with subordinate status in the hierarchy; immature wolves (who will not be treated as adults until their second year); and outcast wolves rejected by the rest of the pack. Each individual wolf, moreover, occupies a specific position within these subgroups, taking precedence over wolves of lower rank in the selection of food, mates, and resting places and holding a greater share of the responsibility for protecting the pack from strange wolves and other dangers.
7. According to the passage, wolves and birds are similar in that they both
- (A) mate for life
 - (B) become adults at two years of age
 - (C) defer to senior females
 - (D) live in structured groups
8. The passage suggests that our knowledge of the social hierarchies of wolves is
- (A) mostly theoretical
 - (B) not a recent discovery
 - (C) based on observations of individual wolves
 - (D) in need of long-range studies
9. What is implied in the passage about outcast wolves?
- (A) They never share the pack’s food.
 - (B) They sometimes kill the pack’s young.
 - (C) Their status is lower than that of immature wolves.
 - (D) They are incapable of protecting the pack from strange wolves.
10. According to the passage, the structure of a wolf pack is determined by each wolf’s share of all of the following EXCEPT
- (A) food
 - (B) water
 - (C) resting place
 - (D) mate
11. The author’s attitude toward the subject may best be described as
- (A) admiring
 - (B) critical
 - (C) informative
 - (D) indifferent
12. As used in line 9, the word “subordinate” most nearly means
- (A) top
 - (B) inferior
 - (C) short
 - (D) immature

The Romantic poets in nineteenth-century Britain prided themselves on their rejection of many of the traditional practices of English poetry.

Line William Wordsworth, one of the leaders of the

- (5) Romantic movement, wished to avoid what he considered the emotional insincerity and affectation characteristic of much earlier poetry; instead he attempted to achieve spontaneity and naturalness of expression in his verse. According
- (10) to Wordsworth, a poet should be “a man speaking to men” rather than a detached observer delivering pronouncements from an ivory tower. John Keats, Wordsworth’s younger contemporary, brought a similar attitude to his poetry. Keats tried to make
- (15) even the structure of his sentences seem unpremeditated. “If poetry,” he claimed, “comes not as naturally as the leaves to a tree, it had better not come at all.”
13. The passage is primarily concerned with
- (A) describing an artistic movement
- (B) detailing the achievements of William Wordsworth
- (C) criticizing traditional English poetry
- (D) providing information about John Keats
14. As used in line 3, the word “traditional” means
- (A) conservative
- (B) formal
- (C) boring
- (D) standard
15. It is implied by the passage that
- (A) the Romantic poets wrote better poetry than their predecessors did
- (B) Keats imitated Wordsworth’s poetry
- (C) Keats is considered a Romantic poet
- (D) Keats only wrote poetry about nature

16. By the statement that a poet should be “a man speaking to men,” Wordsworth probably meant that poetry should
- (A) be written in the form of a dialogue
- (B) always be read aloud to an audience
- (C) not be written by women
- (D) have the directness and spontaneity of real speech
17. All of the following are true about Wordsworth and Keats EXCEPT
- (A) both were Romantic poets
- (B) both wrote with a naturalness of expression
- (C) both liked poetry that was told from an angle of a detached observer
- (D) both wanted to stray from traditional English poetry
18. Where would this passage most likely be found?
- (A) A review of a book on Romantic poets
- (B) A biography of Wordsworth
- (C) A research paper on Romantic poets
- (D) A love letter from Wordsworth

- Edward Stratmeyer, the creator of the Hardy Boys, Nancy Drew, and the Bobbsey Twins, did not gain enormous commercial success through luck alone. His books, in which young amateur
- (5) detectives had fantastic adventures and always saved the day, had a particular appeal in the time they were written. When Stratmeyer himself was a boy, the harsh economics of an industrializing America quickly forced children to become adults.
- (10) By 1900, however, prosperity began to prolong childhood, creating a new stage of life—adolescence. From 1900 to 1930, the heyday of Stratmeyer's career, adolescence came of age. Child labor laws made schooling compulsory until
- (15) the age of sixteen. Young Americans, with more free time than the working youth of the previous century, looked to fiction and fantasy for adventure. Stratmeyer, writing under a variety of pseudonyms, responded to the needs of his readers
- (20) with a slew of heroic super-teens.
19. The passage primarily serves to explain
- (A) the universal appeal of Stratmeyer's characters
 - (B) the benefits of mandatory schooling for teenagers
 - (C) the underlying reason for a writer's popularity
 - (D) the economic boom created by child labor laws
20. The passage suggests that the appeal of Stratmeyer's fictional heroes lay partly in the fact that
- (A) they worked long hours in industrial jobs
 - (B) their activities were not restricted by fictional parents
 - (C) they were the same age as his readers
 - (D) they were based on young people Stratmeyer actually knew
21. According to the passage, children under sixteen during the 1930s
- (A) led lives of fun and adventure
 - (B) were better off financially than ever before
 - (C) began to lose interest in Stratmeyer's books
 - (D) were legally required to attend school
22. According to the passage, Stratmeyer wrote his books
- (A) in a single thirty-year span
 - (B) using a series of pseudonyms
 - (C) to pay off family debts
 - (D) without ever gaining commercial success
23. As used in line 10, "prosperity" most closely means
- (A) success
 - (B) failure
 - (C) medicine
 - (D) life
24. The author's attitude toward Stratmeyer can best be described as
- (A) surprised
 - (B) tired
 - (C) admiring
 - (D) scornful

- The ventriloquist's "dummy," the wooden figure that a ventriloquist uses to create the illusion of "throwing" his or her voice, was first developed in the 1880s. On the outside, the first dummies looked very much like those used today—with much the same exaggerated mouth and range of movement. On the inside, however, the best of these wooden figures were a curious fusion of engineering feats and sculpture.
- (10) Underneath the wig, the back of the dummy's head opened up, revealing tangled innards of metal and wire, screws, and levers. Arguably the most mechanically complex figures were made by the McElroy brothers, who together created one
- (15) hundred figures in the ten years prior to the Second World War. The mechanical brain of the McElroy dummy was assembled from some 300 different springs, pieces of metal, typewriter keys, and bicycle spokes—a synergistic effort comparable to
- (20) the work of the Wright Brothers.
25. The primary purpose of the passage is to
- (A) compare the achievements of two different families of inventors
 - (B) relate the history of the ventriloquist's art
 - (C) compare the ventriloquists' dummies of the 19th century with those produced today
 - (D) describe the complex craftsmanship behind early ventriloquists' dummies
26. It can be inferred from the passage that the outward appearance of ventriloquists' dummies
- (A) is meant to seem as lifelike as possible
 - (B) has not changed much since they were invented
 - (C) depends on what mechanical devices are inside them
 - (D) changed after the work of the McElroy brothers
27. The passage suggests that the most complex dummies are
- (A) created using scientific and artistic craftsmanship
 - (B) able to fool the most discerning observer
 - (C) those with the widest range of movement
 - (D) those made since the end of the Second World War
28. The author probably argues that the McElroy brothers' dummies were "a synergistic effort" (line 19) because
- (A) the McElroys were related to the Wright Brothers
 - (B) the McElroys borrowed design concepts from other inventors
 - (C) the McElroys worked together on the design
 - (D) their dummies required so much energy to operate
29. The author's attitude toward the McElroy brothers can best be described as
- (A) skeptical
 - (B) puzzled
 - (C) elated
 - (D) appreciative
30. All the following questions can be answered by the passage EXCEPT:
- (A) How does a ventriloquist throw his or her voice?
 - (B) What is a dummy?
 - (C) How did the McElroy brothers' dummies differ from others?
 - (D) Did the McElroy brothers start making dummies before or after the war?

- In 1916, James VanDerZee opened a photography studio in New York City's Harlem. It was the eve of the Harlem Renaissance—the decade-long flowering of art and culture that
- (5) established Harlem as the most artistically vigorous African-American community in the nation. For some 40 years, VanDerZee captured the life and spirit of that burgeoning community, producing thousands of portraits, not only of
- (10) notables but of ordinary citizens—parents and children, brides and grooms, church groups, and women's clubs. Critics consider these images important today not only for their record of Harlem life, but for their reflection of their
- (15) subjects' keen sense of the importance of their culture. VanDerZee's carefully staged photographs spotlighted his subjects' pride and self-assurance. His unique vision recorded a time, place, and culture that might otherwise have slipped away.
31. This passage focuses primarily on
- (A) the cultural achievements of the Harlem Renaissance
 - (B) the history of African-American photography
 - (C) the creative influences that shaped one photographer's career
 - (D) the cultural record left by a Harlem photographer
32. It can be inferred from the passage that VanDerZee opened his studio
- (A) just before the Harlem Renaissance began
 - (B) in order to photograph African-American celebrities
 - (C) without having previous photographic experience
 - (D) with financial support from his community
33. The passage most likely describes the subjects of VanDerZee's photographs (lines 7–12) in order to
- (A) demonstrate the artist's flair for composition
 - (B) show that his work represented the whole community
 - (C) highlight the self-assurance of Harlem residents
 - (D) reflect upon the nature of photography
34. The author's attitude toward VanDerZee can best be described as
- (A) neutral
 - (B) condescending
 - (C) admiring
 - (D) generous
35. Which of the following statements is NOT true?
- (A) VanDerZee helped trigger the Harlem Renaissance
 - (B) If it weren't for VanDerZee, a part of Harlem life would have been forgotten
 - (C) The Harlem Renaissance helped establish the neighborhood as an artistic community
 - (D) VanDerZee captured the lives of a variety of people in Harlem
36. As used in line 8, "burgeoning" means
- (A) beautiful
 - (B) barren
 - (C) quiet
 - (D) thriving

SECTION 4

Time—40 Minutes

47 Questions

In this section there are four possible answers after each question. Choose which one is best. You may use the blank space at the right of the page for scratch work.

Note: Figures are drawn with the greatest possible accuracy, UNLESS stated "Not Drawn to Scale."

1. Ralph is twice as old as Howie. If Ralph is x years old, how many years old is Howie, in terms of x ?

(A) $0.5x$
(B) $2x$
(C) $x + 2$
(D) $x - 2$


USE THIS SPACE FOR FIGURING.

2. A bag contains only blue and red marbles. If there are three blue marbles for every red marble, what fraction of all the marbles is red?

(A) $\frac{1}{4}$
(B) $\frac{1}{3}$
(C) $\frac{1}{2}$
(D) $\frac{3}{4}$

3. On Monday the temperatures of four different cities were 55° , -18° , 25° , and -15° . What was the average (arithmetic mean) temperature on Monday for these four cities?

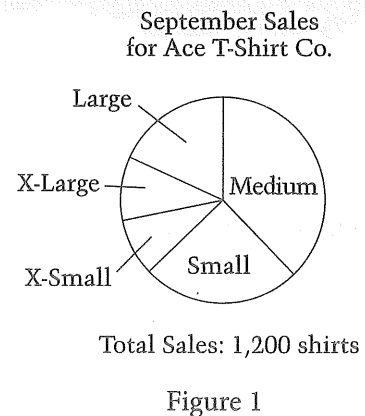
(A) 103°
(B) 20°
(C) 12°
(D) 11.75°

GO ON TO THE NEXT PAGE 

Questions 4–5 refer to the graph in Figure 1.

USE THIS SPACE FOR FIGURING.

4. Approximately how many medium-sized shirts were sold?
- (A) 300
(B) 400
(C) 500
(D) 600
5. If each shirt sells for \$5.95, approximately how much was spent on small-sized shirts?
- (A) \$300
(B) \$900
(C) \$1,800
(D) \$3,600
6. How many seconds are there in $\frac{1}{20}$ of a minute?
- (A) 2
(B) 3
(C) 20
(D) 30
7. What is the greatest number of squares, each measuring 2 centimeters by 2 centimeters, that can be cut from a rectangle with a length of 8 centimeters and a width of 6 centimeters?
- (A) 48
(B) 12
(C) 8
(D) 6
8. Five percent of the guests at a Halloween party were dressed as witches. If there were 8 witches at the party, how many guests were at the party?
- (A) 40
(B) 80
(C) 160
(D) 200



Questions 9–10 refer to the following definition.

USE THIS SPACE FOR FIGURING.

For all real numbers a and b , $a@b = (a \times b) - (a + b)$.

Example: $6@5 = (6 \times 5) - (6 + 5) = 30 - 11 = 19$.

9. $9@8 =$
- (A) 73
(B) 72
(C) 71
(D) 55
10. If $10@N = -1$, then $N =$
- (A) 0
(B) 1
(C) 9
(D) 11
11. A CD collection was divided among six people so that each received the same number of CDs. Which of the following could be the number of CDs in the collection?
- (A) 10
(B) 15
(C) 21
(D) 24
12. At which of the following times is the smaller angle formed by the minute hand and the hour hand of a clock less than 90 degrees?
- (A) 1:30
(B) 3:00
(C) 4:30
(D) 6:00

USE THIS SPACE FOR FIGURING.

13. Carol spent $\frac{1}{2}$ of her day at work, and $\frac{2}{3}$ of her time at work in meetings. What fraction of her entire day did Carol spend in meetings?

(A) $\frac{1}{2}$
(B) $\frac{1}{3}$
(C) $\frac{1}{5}$
(D) $\frac{1}{6}$

14. If $\frac{1}{2} \times S = 0.2$, then $S =$

(A) $\frac{2}{5}$
(B) $\frac{1}{4}$
(C) $\frac{1}{5}$
(D) $\frac{1}{10}$

15. If 50% of a number equals 75, then 10% of the number equals

(A) 15
(B) 30
(C) 60
(D) 150

16. If $\frac{1}{2} + \frac{1}{3} = \frac{M}{12}$, then $M =$

(A) 8
(B) 9
(C) 10
(D) 11

17. The perimeter of a rectangle is 32. If its length is three times as long as its width, what is its width?

(A) 12
(B) 8
(C) 6
(D) 4

USE THIS SPACE FOR FIGURING.

$$2,955 \times A = 35,460$$

$$11,820 \times B = 35,460$$

$$3,940 \times C = 35,460$$

$$7,092 \times D = 35,460$$

18. If each of the above equations is correctly solved, which of the following has the greatest value?

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

19. In a certain garage, 3 out of every 10 cars are foreign. If there are 180 cars at the garage, how many of them are foreign?

(A) 27
(B) 45
(C) 54
(D) 60

20. If $N_i = N \times 10$, then $30_i + 2_i =$

(A) 32
(B) 302
(C) 320
(D) 3,200

21. Patricia began reading from the beginning of page 42 of a book and stopped at the end of page 83. How many pages did she read?

(A) 40
(B) 41
(C) 42
(D) 43

USE THIS SPACE FOR FIGURING.

22. In Figure 2, if $AB = 8$ and $AC = 14$, how far is the midpoint of AB from the midpoint of BC ?

(A) 3
(B) 4
(C) 7
(D) 8

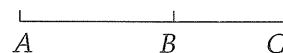


Figure 2

23. Judy has six more baseball cards than her brother. How many would she have to give him so that they would have an equal number of cards?

(A) 6
(B) 4
(C) 3
(D) 2

24. Fred averaged 168 on the first three games he bowled. What must he score on his fourth game in order to raise his average 5 points?

(A) 158
(B) 163
(C) 178
(D) 188

25. Which of the following equations could NEVER be true?

(A) $N \times 0 = N$
(B) $1 \times N = N$
(C) $N \times N = N$
(D) $N - 1 = N$

GO ON TO THE NEXT PAGE 

26. If X is the set of numbers greater than 6 and Y is the set of numbers less than 11, how many whole numbers exist that are in both sets?

(A) 4
(B) 5
(C) 6
(D) Infinitely many

USE THIS SPACE FOR FIGURING.

27. Mary has 30% more money than June has. If June has \$65, how much money does Mary have?

(A) \$84.50
(B) \$80
(C) \$50
(D) \$45.50

28. If 9 is x percent of 90, what is 50 percent of x ?

(A) 5
(B) 10
(C) 15
(D) 18

29. A certain machine caps 5 bottles every 2 seconds. At this rate, how many bottles will be capped in 1 minute?

(A) 75
(B) 150
(C) 225
(D) 300

30. What is 5 percent of 20 percent of 100?

(A) 1
(B) 5
(C) 20
(D) 25

31. If an exam had 10 questions and Keith answered 2 questions incorrectly, what percent of the questions did he answer incorrectly?

(A) 2%
(B) 10%
(C) 12%
(D) 20%

USE THIS SPACE FOR FIGURING.

32. The difference between 6,985 and 3,001 is approximately

(A) 3,000
(B) 3,500
(C) 4,000
(D) 4,500

33. One and one-third minus five-sixths equals

(A) $\frac{1}{4}$
(B) $\frac{1}{3}$
(C) $\frac{1}{2}$
(D) $\frac{3}{4}$

34. Patty and Liza went out for lunch. Patty paid \$3.30 for a drink and two hot dogs. Liza paid \$2.15 for a drink and one hot dog. How much did a hot dog cost?

(A) \$0.90
(B) \$1.15
(C) \$1.30
(D) \$1.65

35. If one-fourth of a number is 3, what is one-third of the same number?

(A) 1
(B) 2
(C) 3
(D) 4

USE THIS SPACE FOR FIGURING.

36. $2 \times 4 \times 7 \times 9$ is equal to the product of 18 and

(A) 8
(B) 14
(C) 28
(D) 36

37. If $12 + P = 20 - 2 \times 3$, then $P =$

(A) 2
(B) 14
(C) 36
(D) 42

38. One-tenth of 99 is

(A) 0.99
(B) 9.9
(C) 99
(D) 99.9

39. Twenty percent of 30 is

(A) 6
(B) 8
(C) 10
(D) 12.5

40. $\frac{64}{2 \times 4} =$

(A) 8
(B) 24
(C) 42
(D) 128

USE THIS SPACE FOR FIGURING.

41. $\frac{81}{9} + 2 =$

- (A) 3
- (B) 6
- (C) 8
- (D) 11

42. In a certain class, there are 6 girls for every 2 boys. What is the ratio of the number of girls to the entire class?

- (A) 12:1
- (B) 8:6
- (C) 6:2
- (D) 3:4

43. If $\frac{28}{a} = \frac{48}{12}$, then $a =$


- (A) 7
- (B) 8
- (C) 9
- (D) 10

44. If Set A contains all integers greater than 8, and Set B contains all integers less than 30, which of the following numbers could be in both sets?

- (A) 0
- (B) 2
- (C) 4
- (D) 9

45. $\frac{18+16}{4}$ equals

- (A) 8
- (B) 8.5
- (C) 9
- (D) 22

GO ON TO THE NEXT PAGE 

46. When an integer is multiplied by itself, it can end in all of the following EXCEPT

(A) 1
(B) 3
(C) 5
(D) 6

USE THIS SPACE FOR FIGURING.

47. If 20 percent of J is 1,500, what is 15 percent of J ?

(A) 1,125
(B) 3,000
(C) 5,125
(D) 6,000

Time—30 Minutes

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

STOP

ANSWER KEY**Section 1**

1. B
2. C
3. A
4. C
5. B
6. D
7. B
8. D
9. B
10. D
11. D
12. A
13. D
14. D
15. A
16. B
17. A
18. B
19. B
20. A
21. B
22. A
23. D
24. D
25. C
26. D
27. B
28. A
29. C
30. C
31. B
32. C

33. B

34. A
35. B
36. D
37. B
38. B
39. B
40. A

Section 2

1. C
2. B
3. C
4. A
5. D
6. C
7. C
8. A
9. A
10. C

11. A
12. C
13. C
14. C
15. A
16. C
17. C
18. B
19. B
20. C
21. B
22. B
23. B
24. A

25. C

26. D
27. C
28. C
29. D
30. B
31. A
32. B

33. C

34. C
35. A
36. A
37. B

Section 3

1. C
2. C
3. B
4. D

5. A
6. A
7. D
8. B
9. C
10. B
11. D
12. B
13. A
14. D
15. C
16. D
17. C
18. C
19. C

20. C

21. D
22. B
23. A
24. C
25. D
26. B
27. A
28. C

29. D

30. A
31. D
32. A
33. B
34. C
35. A
36. D

Section 4

1. A
2. A
3. D
4. B
5. C
6. B
7. B
8. C
9. D
10. B
11. D
12. C
13. B
14. A
15. A

16. C

17. D
18. A
19. C
20. C
21. C
22. C
23. C
24. D

25. D

26. A
27. A
28. A
29. B
30. A
31. D
32. C

33. C

34. B
35. D
36. C
37. A
38. B
39. A
40. A
41. D
42. D
43. A
44. D
45. B
46. B
47. A

**ISEE PRACTICE TEST 1: UPPER- AND MIDDLE-LEVEL:
ASSESS YOUR STRENGTHS**

Use the following tables to determine which topics and chapters you need to review most. If you need help with your essay, be sure to review Chapter 9: The Essay and Chapter 26: Writing Skills.

Topic	Question
Verbal: Synonyms	Section 1, questions 1–20
Verbal: Sentence Completions	Section 1, questions 21–40
Quantitative Reasoning: Word Problems	Section 2, questions 1–22
Quantitative Reasoning: Quantitative Comparison	Section 2, questions 23–37
Reading Comprehension	Section 3, questions 1–36
Mathematics Achievement	Section 4, questions 1–47

Topic	Number of Questions on Test	Number Correct	If you struggled with these questions, study...
Verbal: Synonyms	20		Chapters 7 and 24
Verbal: Sentence Completions	20		Chapter 4
Quantitative Reasoning: Word Problems	22		Chapters 10–14 and Chapter 25
Quantitative Reasoning: Quantitative Comparison	15		Chapter 5
Reading Comprehension	36		Chapter 8
Mathematics Achievement	47		Chapters 10–14 and Chapter 25

ANSWERS AND EXPLANATIONS

SECTION 1: VERBAL REASONING

SYNONYMS

1. B

An excess is an extra amount of something—a surplus.

2. C

To reimburse someone is to pay him back or to compensate him.

3. A

When you astound someone, you greatly surprise or stun her.

4. C

Something that is massive is extremely large or huge.

5. B

Din refers to a large and distracting sound or a clamor.

6. D

When something is scarce there is not a lot of it; it is very rare.

7. B

If you accuse someone of deceit, you are accusing him of being untruthful or of trickery.

8. D

You often hear the expression “hallowed ground,” which means sacred ground.

9. B

If you have apprehension about something, you have an acute concern or worry about it.

10. D

When something is bleak, like the weather, it is very harsh or dreary.

11. D

To offend someone is to be extremely rude to her or to insult her.

12. A

Someone who is vigorous is very lively and healthy—robust.

13. D

A despondent person feels hopeless and depressed.

14. D

If you are very hungry and then eat a large meal, you can say that your appetite has been satiated or satisfied.

15. A

Spontaneous actions or behavior occur with no apparent reason or cause—they are impulsive.

16. B

Someone whose face is wan is sickly and pale.

17. A

If you abhor liver or brussel sprouts, you dislike them immensely—you despise them.

18. B

If you see an apparition on Halloween, you are seeing something resembling a ghost.

19. B

A person who is benevolent is kind and giving—charitable.

20. A

A tolerant person does not become angry or intimidated by new and strange ideas because she is open-minded.

SENTENCE COMPLETIONS**21. B**

This author has written a lot of novels, so we need a word that describes an author who writes a great deal. Prolific means producing abundant works.

22. A

The school has managed in this situation in spite of a lack of funds. Meager means deficient in quantity or scant. Don't be misled by (D), belittled. True, it has to do with little, but in an emotional sense. One feels belittled by public criticism.

23. D

With the advent, or arrival, of the computer chip, Frank's job became "something." Common sense tells us that his job became outdated or extinct. Obsolete means just that: no longer useful.

24. D

There were efforts to do something to the nature preserve. Whatever those efforts were, we can infer from the word "proved" that they were unsuccessful. Inextricable, (A), looks tempting, as it means incapable of being disentangled (think of extricating yourself from something), but it doesn't make sense here. Futile, (D), means having no useful result or ineffective.

25. C

The clue "except for" indicates that you're looking for the opposite of "loners"—social, (C).

26. D

"Unproductive" is the clue here—it suggests that the company employs people who don't work hard. In other words, they have a lackadaisical approach to their work.

27. B

Environmental, (B), is the only word that fits the second blank—a forest fire "devastated the region" fits the first blank.

28. A

"Despite" is a clue that indicates contrast—in spite of his humble beginnings, the chieftain became one of the greatest rulers.

29. C

Another contrast question—in spite of Angela's job as an interior decorator, her home might be modestly decorated.

30. C

Contested is the only word that fits the context here—you can't gather, qualify, or survive for food if you're a marine creature.

31. B

You're looking for a negative word here—contempt, (B), fits the captain's attitude best.

32. C

Which word goes best with grace? Grace and (C), elegance, are the two words that best describe a ballet dancer.

33. B

You're looking for negative words here for both blanks, so you can eliminate choices (A), (C), and (D).

34. A

The word "staff" indicates that the volunteer association is either (A), recruiting, or (D), hiring. "Attributes" is the word that best fits the idea of job qualifications.

35. B

The phrase “in spite of” indicates a contrast or paradox—you can tell that Joanne didn’t get the promotion even though she worked hard. (B), *industrious*, is the only word that works.

36. D

The sky diver’s reaction has to be consistent with his parachute—if it opened improperly, then he would be fortunate to survive.

37. B

The logic of the sentence suggests that the puppy would only whine if unaccustomed, or unused to, discipline.

38. B

The clue word “whereas” tells you this is a contrast question, so you need a choice with contrasting words. Only choice (B) provides the needed contrast.

39. B

Another word for “uncomfortable in social situations” is (B), *introverted*.

40. A

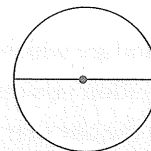
You’re looking for a word that means secret. You may have heard the word “clandestine” on the news or in spy movies. It means secret, or undercover.

SECTION 2: QUANTITATIVE REASONING

WORD PROBLEMS

1. C

A diameter is a chord that runs straight through the center of a circle. Two radii will form a diameter if they form a straight line, as shown in the figure below. A straight angle has 180° , so (C) is correct.



2. B

If the price of the stock doubled, it increased by its full price, or 100%, (B). If this isn’t clear, pick a number for the original price of the stock, say \$100. On Tuesday it would be twice this, or \$200. So the increase is $\$200 - \$100 = \$100$; \$100 is 100% of \$100, so again (B) is correct.

3. C

Evaluate each choice to see which is true:

(A) $0.2 \times 0.2 = 0.04$, not 0.4, so (A) is false.

(B) $0.2 \times 2 = 0.4$, not 0.04, so (B) is false.

(C) $0.2 \div 2 = 0.1$, so (C) is true.

(D) $0.2 \div 0.1 = 2$, not 0.01, so (D) is false.

4. A

A square has 4 equal sides, so its perimeter is equal to $4s$, where s represents the length of one of its sides. So $4s = 8$, and a side of the square has length 2.

5. D

Evaluate each choice to see which is not equal to $\frac{1}{3}$:

(A) $\frac{6}{18} = \frac{1}{3}$ (when you factor out a 6)

(B) $\frac{10}{30} = \frac{1}{3}$ (when you factor out a 10)

(C) $\frac{11}{33} = \frac{1}{3}$ (when you factor out an 11)

(D) $\frac{7}{24} \neq \frac{1}{3}$

6. C

Pick numbers for N and see which of the choices must be odd. The question says must, not can, so the correct choice will be the one that is odd no matter what number you pick. Start with $N = 1$:

- (A) $2N = 2$; even so eliminate (A). Any integer multiplied by 2 will be even.
- (B) $N + 1 = 2$; even, so eliminate (B).
- (C) $2N + 1 = 3$; odd. To see if this is always the case, try $N = 2$: $2N + 1 = 5$; odd, so (C) is correct. Since any integer multiplied by 2 will be even, $2N + 1$ will always be odd.
- (D) If $N = 1$, $3N + 1 = 4$; even, so eliminate (D).

7. C

You know $\frac{700}{x} = 35$, so $35x = 700$ and $700 \div 35 = 20$. Thus, $x = 20$.

8. A

Fifteen percent $= \frac{15}{100} = 0.15$. Convert each choice to a decimal to see which comes closest to 0.15.

- (A) $\frac{1}{7} = 0.142\ldots$
- (B) $\frac{1}{5} = 0.2$
- (C) $\frac{1}{4} = 0.25$
- (D) $\frac{1}{3} = 0.\overline{33}$

Of the choices, 0.142 is closest to 0.15, so (A) is correct.

9. A

Pick a number for A . Since A leaves a remainder of 3 when divided by 5, let $A = 5 + 3 = 8$. You're asked for the remainder when $A + 2$, or 10, is divided by 5. Because 10 is divisible by 5, it leaves a remainder of 0.

10. C

You could figure out 30% of 400, then figure out 15% of 400, and then find their difference, but it's not necessary. The difference between 30% of a number and 15% of that same number is $30\% - 15\% = 15\%$ of that number. Then 15% of 400 is 60, so (C) is correct.

11. A

Since $\frac{x}{3}$ and $\frac{y}{6}$ both equal 3, $\frac{x}{3} = 3$, and $x = 3 \times 3 = 9$ and $\frac{y}{6} = 3$, so $y = 3 \times 6 = 18$. So $x + y = 9 + 18 = 27$.

12. C

The triangle in Figure 1 is isosceles, since it has two sides of length 2. Therefore, the angles opposite these sides are also equal, and the unidentified base angle must equal 50° . The interior angles of a triangle sum to 180° , so $50 + 50 + x = 180$, $100 + x = 180$, and $x = 80$.

13. C

Since triangle ABC is equilateral, it has three 60° angles. Therefore, $\angle BCA$ is 60° . $\angle BCE$ is supplementary to $\angle BCA$, so $60 + \angle BCE = 180$ and $\angle BCE = 120$.

14. C

The product of two numbers is the result of multiplying them together, so the product of 12 and 4 is $12 \times 4 = 48$. Adding 9 to 48 gives you 57, (C).

15. A

The product of 3 and 5 is equal to $3 \times 5 = 15$. $45 \div 15 = 3$, (A).

16. C

Joe shoveled for a total of $2\frac{1}{3} + 1\frac{3}{4}$ hours. To add, first convert to improper fractions: $\frac{7}{3} + \frac{7}{4}$. Then find a common denominator: $\frac{28}{12} + \frac{21}{12} = \frac{49}{12}$. Lastly, convert to a mixed number: $= 4\frac{1}{12}$.

17. C

Evaluate each choice to see whether it is a factor of 27:

(A) $1 \times 27 = 27$, so 1 is a factor.(B) $3 \times 9 = 27$, so 3 is a factor.(C) 7 is *not* a factor of 27.(D) $27 \times 1 = 27$, so 27 is a factor.

18. B

Greg has \$0.50 and is given \$0.75, for a total of \$1.25, (B).

19. B

$$\frac{1}{2} + \frac{1}{6} = \frac{3}{6} + \frac{1}{6} = \frac{4}{6} = \frac{2}{3}, \text{ (B)}$$

20. C

To find the number of integers in an inclusive range, subtract the first integer from the last integer, and then add 1: $1,980 - 1,960 = 20$; $20 + 1 = 21$, choice (C).

21. B

Plug in 10 for n in the equation. So, $10^* = 2(10) + 4 = 20 + 4 = 24$.

22. B

If $a + b = 6$, in order to solve for b , you need to move a to the right side of the equation by subtracting it from 6. So, $b = 6 - a$.**QUANTITATIVE COMPARISON**

23. B

In Column A, $3 + 4 = 7$. In Column B, $3 \times 4 = 12$. Since Column B is greater, (B) is correct.

24. A

You don't need to figure out the differences to answer this QC. In both cases you're subtracting some number from 1,000. Since you're subtracting more

from 1,000 in Column B, the difference in Column B is smaller than the difference in Column A.

25. C

$$\text{Average} = \frac{\text{Sum of terms}}{\text{Number of terms}}, \text{ so here:}$$

$$\begin{aligned} \text{Average age} &= \frac{8 + 12 + 16 + 20 + 24}{5} \\ &= \frac{80}{5} \\ &= 16 \end{aligned}$$

You could have saved time if you remembered that the average of a group of consecutive integers is equal to the middle value. The ages of the family happen to be consecutive multiples of 4, so their average is the middle value, or 16.

26. D

You're told that a grapefruit costs \$0.45, so that's the value in Column A. You're told that a bag of oranges costs \$2.45, but you're given no information about the number of oranges in the bag. If there were 2 oranges in the bag, each would cost about \$1.25, and Column B would be greater. But if there were 10 oranges in the bag, each would cost about \$0.25, and Column A would be greater. As it stands, you are not given enough information to determine which column is larger, so (D) is correct.

27. C

Area of a triangle is equal to $\frac{1}{2}(\text{base})(\text{height})$. In Column A you have $\frac{1}{2}(6)(10) = 30$. In Column B you have $\frac{1}{2}(12)(5) = 30$. The columns are equal, so (C) is correct.

28. C

In Column A you have $\frac{1}{4}$ of 12,948, and in Column B you have 25% of 12,948. Since $\frac{1}{4} = 25\%$, the

columns will be equal. Notice that you didn't need to do any calculation to solve this problem—in fact, calculating would waste time you could use to answer other questions.

29. D

Pick Numbers for n . If $n = 1$, Column A is 1 and Column B is $1^2 = 1$, and the columns are equal. But if $n = 2$, Column A is 2, and Column B is $2^2 = 4$, and Column B is greater. Since there is more than one possible relationship between the columns, (D) is correct.

30. B

Multiplying through Column A gives you $4x + 2$. Compare piece by piece: While you may not know the value of $4x$, it will be the same in both columns. Looking at the second piece in each column, 4 is greater than 2, so Column B is greater.

31. A

It's not necessary—and is actually a waste of time—to find common denominators and calculate the sum in each column. Compare piece by piece. The first piece in Column A is $\frac{1}{4}$, and the first piece in Column B is $\frac{3}{16}$; $\frac{1}{4} = \frac{4}{16}$, so the first piece in A is bigger. The second piece in A is $\frac{5}{8}$, which is a little more than $\frac{1}{2}$, and the second piece in B is $\frac{3}{7}$, which is a little less than $\frac{1}{2}$. Therefore the second piece in A is greater. The third piece in A is $\frac{11}{12}$, which is greater than $\frac{1}{2}$, and the third piece in B is $\frac{2}{9}$, which is less than $\frac{1}{2}$. So the third piece in A is also greater, and Column A is greater.

32. B

The value in Column A is 7.9999, and the value in Column B is 7.99999. Column A only shows four places to the right of the decimal place, so any other places are understood to be zeros. Therefore Column A is actually 7.99990. So Column B is 0.00009 greater than Column A.

33. C

$10M + 2 = 32$, so $10M = 30$ and $M = 3$. Therefore the columns are equal.

34. C

This question is a breeze if you remember that $a\%$ of $b = b\%$ of a . If not, work it out. In Column A, 5% of 100 is 5. In Column B, 100% of 5 is 5. The columns are equal, so (C) is correct.

35. A

Put the columns in the same form so that they're easier to compare. In Column A, $\frac{1}{4} = 0.25$. In Column B, $0.2569 - 0.007 = 0.2499$, just less than 0.25 in Column A.

36. A

A 10 percent discount on a price of \$60 is \$6, so the sale price is $\$60 - \$6 = \$54$. This is greater than \$50 in Column B.

37. B

Comparing piece by piece, you see that the second pieces in both columns, namely 8, are equal. Since $4.23 < 37.2$, the first piece in B, 37.2, is greater, so Column B is greater.

SECTION 3: READING COMPREHENSION

CHOCOLATE PASSAGE

The first passage is about chocolate, which comes from the seeds, or beans, of the cacao tree. You're told that chocolate was first known to have been consumed (in drink form) by the Aztec people of Mexico, that the Spanish explorer Cortes learned of chocolate in 1519 on his expedition among the Aztecs, and that he brought three chests of cacao beans back to Spain. Over the next century, the passage concludes, the chocolate drink became popular with the wealthy throughout Europe.

1. C

Chocolate, we learn, is a "generic" term that describes "a variety of foods." Generic means general or relating to a whole group.

2. C

The passage's first sentence says that chocolate can be "made from the seeds, or beans, of the cacao tree." Since seeds are a part of the tree, (C) is correct. The healthiness of chocolate, (A), is not mentioned; we don't know whether it's a main food or staple of any society, (B); and we don't know what other ingredients, if any, go into making chocolate, (D).

3. B

Stick to what the passage actually says. "Cortes came to the New World primarily in search of gold..." Therefore, (B) is correct: He came to amass wealth—i.e., to get rich.

4. D

We learn that Cortes's "interest was... piqued by the Aztec's peculiar beverage." The word "peculiar" suggests that Cortes found the Aztecs' chocolate

drinks strange, (D). Several lines earlier, we learn that the drink was bitter, so (A) is incorrect. And the passage doesn't say whether the drink was relaxing, (B), or stimulating, (C).

5. A

This question points you to the passage's final sentence. It says there that, in the century after its introduction to Europe, the chocolate drink "became popular among those wealthy enough to afford it," which implies that chocolate was very expensive in Europe at that time, (A). This early European chocolate was a drink, not a candy, (B). As far as we know, Aztecs were not imported to make the drink, (C), only the cacao beans were. And the passage never suggests that Cortes himself made most of the chocolate consumed in Europe during the entire 16th century, (D).

6. A

Find the right answer by using the passage to answer the questions asked in the choices. (B) is answered in line 5; they "used cacao seeds to brew a bitter, aromatic drink." Line 15 says drinks made from cacao beans "became popular" in Europe, so (C) is incorrect. (D) is answered in lines 3–4; the passage says that "the first people known to have consumed chocolate were the Aztecs." (A) is the answer because the passage does not say whether Cortes returned with gold in his cargo, only that he returned with "chests of cacao beans."

WOLVES PASSAGE

The next passage is about the structured packs that wolves live in. These packs are described as hierarchies similar to the "pecking order" of birds. Senior male wolves are at the top of the hierarchy, followed by mature wolves, young or immature

wolves, and outcast wolves. We learn that a wolf's place in the hierarchy determines its selection of "food, mates, and resting places" and how much responsibility each wolf is given in terms of protecting the pack from danger.

7. D

Wolves are compared with birds only in the first sentence, where the wolf pack structure is compared to the pecking order of a bird flock. So both species live in structured groups, and (D) is correct. We don't learn whether birds or wolves mate for life, (A), when birds become "adults," (B), or whether either species defers to senior females, (C).

8. B

The passage's opening sentence notes that "it has been known for some time" that wolves live in structured packs; therefore, our knowledge of such packs is not a recent discovery, (B). (A) is incorrect because the information given is not theoretical. (C) is presumably incorrect because information about wolf packs must come from observations of the packs themselves, not individual wolves. And (D) is never suggested.

9. C

Outcast wolves are only mentioned in the third sentence, where we learn that they are fourth in order of importance, behind senior males, mature wolves, and immature wolves. So (C) is correct: The status of outcast wolves is lower than that of immature wolves. (A), (B), and (D) are all plausible statements, but none of them is implied in the passage.

10. B

The passage's final sentence says that the order of the pack determines the selection of "food, mates, and resting places," which eliminates choices (A), (C), and (D). It's plausible that a wolf's share of water,

(B), would also be determined by the pack structure, but this is never mentioned, so (B) is correct.

11. D

The author's attitude toward wolf packs may best be described as indifferent because no opinion is expressed, (D).

12. B

Look at the sentence "subordinate" appears in. It talks about hierarchy, and the word modifies "status," so you know that the answer will have something to do with where the mature wolves fall in the hierarchy. That rules out (C) and (D). The sentence also calls the mature wolves a subgroup, putting them below senior males. That means their status is inferior to that of the senior males (B).

ROMANTICS PASSAGE

The third passage is about the Romantic poets, a group of writers in 19th-century England who "prided themselves on their rejection of" earlier English poetry. In other words, the Romantic poets tried to write differently than their predecessors. In support of this thesis, you're told about how two major Romantic poets, Wordsworth and Keats, rejected pre-Romantic poems as insincere and affected and tried to write more spontaneous-seeming poems.

13. A

The best choice is (A): The passage describes an artistic movement, the Romantic movement in British poetry. (B) and (D) are equally incorrect, as each focuses on only one Romantic poet. And while (C) describes how the Romantics felt about earlier English poetry—they were critical of it—it doesn't sum up the passage, which also describes the kind of poetry the Romantics themselves tried to write.

14. D

The word “traditional” is used here to describe earlier British poetry. The Romantics rebelled against what they saw as the usual or standard practices of earlier poets, so (D) is correct. (A), (B), and (C) are all fairly plausible in context, but they don’t have the equivalent meaning of “traditional.”

15. C

Which of these statements is implied in the passage? (C): Since Keats was Wordsworth’s contemporary, and brought a similar attitude to his poetry as this leader of the Romantic movement did, Keats must also be a Romantic poet. (A) isn’t implied; all we know about Romantic poetry is that it was different from earlier poetry, not that it was better (even if the Romantics themselves thought it was). Similarly, (B) is incorrect because we only know that Keats brought an attitude to his writing that was similar to Wordsworth’s—we don’t know if the younger man actually imitated his older contemporary or not. And while Keats said that poetry should be written “as naturally as the leaves to a tree,” this is a comment about spontaneity—it doesn’t imply that Keats’s poems are actually about nature (D).

16. D

In the sentence just before the quoted one, we learn that Wordsworth “attempted to achieve spontaneity and naturalness of expression” in his poems. Therefore, (D) is correct. (A), (B), and (C) all interpret Wordsworth’s statement too literally. Wordsworth meant that poetry should *seem* like spontaneous speech, not that it should actually be written in dialogue form, or always read aloud, or only be written by men.

17. C

Try to find facts in the passage to back up each statement. (A) is in lines 4–5 and 12–13. (B) is in line 9. (D) is in lines 2–3. (C) is contradicted in lines 10–11.

18. C

Think about where you would most likely find this passage. (A) is incorrect because a review would most likely include opinions, which are not offered in the passage. (B) is incorrect because the focus of the passage is on Romantic poets in general, not just Wordsworth. (D) is incorrect because the passage has no passion and doesn’t take the tone of a love letter. (C) is the most likely answer because the passage offers facts on Romantic poets.

STRATMEYER PASSAGE

The fourth passage is about Edward Stratmeyer, a writer who created those fictional teen heroes and heroines the Hardy Boys, Nancy Drew, and the Bobbsey Twins. The author gives some biographical information about Stratmeyer, but the passage’s main thrust is that he was so successful because his career coincided with the growth of a new population segment—adolescents. Labor laws passed early in the 20th century required children to stay in school until the age of 16, which gave them more free time than they’d ever had before. Wanting adventure, they read Stratmeyer’s books.

19. C

As noted above, the main thrust of the passage is not the universal appeal of Stratmeyer’s characters, (A); how mandatory schooling benefited teenagers, (B); or the boom created by labor laws, (D). Instead, the author is interested in telling us why Stratmeyer was so popular.

20. C

The second sentence describes the adventurous young heroes of Stratmeyer's books as having particular appeal; the final sentence notes that Stratmeyer satisfied his readers' needs with a "slew of heroic super-teens." Since Stratmeyer's readers were mostly teenagers, you can infer that his fictional heroes appealed to them at least partly because readers and heroes were the same age, (C). (A), (B), and (D) are not mentioned in the passage.

21. D

The passage states that, by 1930, adolescence had come of age, because labor laws required children to be in school until the age of sixteen, which makes (D) correct. (A) distorts the passage: By 1930, adolescents had more free time, but it was Stratmeyer's heroes who led lives of fun and adventure. (B) distorts the fourth sentence, which notes that, by 1900, the nation was more prosperous—not that teens themselves were. (C) is tricky. 1930 is described as the end of the heyday of Stratmeyer's career, but that doesn't necessarily mean his reading audience started to drop. It may just as well mean he stopped writing so many books.

22. B

(A) is incorrect because the 30-year span was the heyday, or best part, of Stratmeyer's career. This doesn't mean he wrote all his books within that span. The passage doesn't mention that his family was in debt, (C), and we know from the first sentence that, contrary to (D), he enjoyed enormous commercial success. This leaves correct choice (B): As the final sentence describes in passing, Stratmeyer wrote his books "under a variety of pseudonyms," or false names.

23. A

Look at the sentence "prosperity" appears in. The author says that "prosperity began to prolong childhood." That sounds as if "prosperity" is something positive, meaning (B) is incorrect. (D) doesn't make sense, so it's incorrect. That leaves success and medicine. Medicine is not mentioned in the passage, so the answer is (A).

24. C

Questions about the author's attitude are generally asking about the tone of the passage. Are the author's points positive, negative, or neutral? The author uses phrases such as "did not gain enormous commercial success through luck alone" and "responded to the needs of his readers with a slew of heroic super-teens." Those show that the author had a positive attitude, and that rules out (B) and (D). Next, think about how the passage would sound if you read it aloud. Does it sound as if the author didn't think Stratmeyer would be successful, or does it sound as if the author respected Stratmeyer's work? (C) is correct.

DUMMIES PASSAGE

The fifth passage is about ventriloquists' dummies. The author tells you when dummies were first developed and that early dummies looked much like those of today on the outside but, on the inside, were a complicated mixture of "engineering feats and sculpture." The passage goes on to describe the inside of early dummy heads, especially the dummies made by the McElroy brothers, whose creations are said to have rivaled those of the Wright Brothers—inventors of the airplane—in complexity.

25. D

The author's primary purpose here is to describe early ventriloquists' dummies—the care and craft that went

into making them. This point is restated in correct choice (D). The two inventing families mentioned in (A)—the McElroy and Wright Brothers—are only compared briefly in the passage’s last sentence, making this a poor choice for a primary purpose question. (B) is too general, and as for (C), the passage compares early dummies with today’s dummies only to tell us that both had similar exteriors. But the bulk of the passage is about the interiors of early dummies, and we learn nothing about the insides of today’s dummies, so (D) remains best.

26. B

As described in the last question, the outsides of dummies are only mentioned in sentence 2: The outsides of early ones “looked very much like those used today.” So you can infer (B), that outwardly, dummies haven’t changed much since they were invented. (A) is not indicated, since at least one feature, the mouth, has always been “exaggerated.” (C) is wrong because the outward appearance has remained the same even though the insides have changed over the years.

27. A

Correct choice (A) restates sentence 3: The interiors of the best dummies “were a curious fusion of engineering feats and sculpture”—that is, a mix of science and art. With their exaggerated features, even the best-made dummies aren’t meant to fool the observer, (B); it’s the “throwing” of the ventriloquist’s voice that does the fooling. (C) distorts the point, in sentence 2, that dummies from all eras have similar range of movement. And the McElroy brothers’ dummies, arguably the best ever made, were constructed before World War II, not after (D).

28. C

A “synergistic effort” describes two things working together so that the effect of the whole is more than the effect of the parts working separately. We know that the McElroy brothers worked together on their puppets, making (C) the correct answer. There’s no evidence for (A). (B) and (D) are never mentioned.

29. D

The author clearly admires the work of the McElroy brothers, so (A) and (B) are easily eliminated. Elated, (C), means extremely happy, which doesn’t seem fitting in the context of what is essentially a dry, expository passage.

30. A

Find the right answer by using the passage to answer the questions asked in the choices. (B) is answered in lines 1–3. (C) is in lines 12–13. (D) is answered in lines 14–16. (A) is not addressed in the passage.

PHOTOGRAPHY PASSAGE

The sixth and last passage on this test is about James VanDerZee, a photographer who worked in Harlem. We learn that VanDerZee’s career started in 1916, just before an African-American cultural boom known as the Harlem Renaissance, and that, in a career spanning 40 years, he took thousands of photographs of Harlem residents. The passage states that these photographs—of celebrities and unknown citizens alike—are now considered an important cultural record of a proud community.

31. D

The main focus of this passage is clearly on the work of VanDerZee, how he created an important cultural record. (D), which restates this idea, is thus the correct answer. (A) is too broad in scope and too

narrow in time frame: VanDerZee was just one artist among many who made up the Harlem Renaissance, and that “decade-long flowering” spanned only one-fourth of his productive career. (B) is similarly too broad, since VanDerZee is the only African-American photographer mentioned in the passage. And (C) is incorrect because we’re never told what creative influences shaped VanDerZee’s career.

32. A

The passage states that VanDerZee opened his studio in 1916, on “the eve of the Harlem Renaissance.” As it does in “Christmas Eve,” the word “eve” means, literally or figuratively, the night before. So we can infer that 1916 was just before the beginning of the Harlem Renaissance, and (A) is correct. (B) is unlikely, since the passage states that VanDerZee photographed thousands of noncelebrities. In fact, we really know nothing (and so can infer nothing) of his original intentions, of his experience prior to opening the studio, (C), or of who bankrolled his studio, (D).

33. B

Sentence 3 describes VanDerZee’s Harlem subjects as representing “the life and spirit of that burgeoning community.” It also notes that they were not only “notables,” or celebrities, but also “ordinary citizens.” In other words, VanDerZee’s subjects represented the entire Harlem community, and (B) is correct. The artist’s flair for photographic composition, (A), and the self-assurance of his subjects, (C), are described further down in the passage, not in the lines in question. And (D) is too abstract and theoretical; the author wants to tell you whose pictures VanDerZee took, not to expound on the nature of photography in general.

34. C

The author describes VanDerZee as capturing the life of a community, as an artist respected by critics who had a “unique vision.” In other words, the author admires VanDerZee, and (C) is correct. Neutral, (A), implies that the author doesn’t feel one way or the other about VanDerZee, which clearly isn’t the case. Condescending, (B), is a negative word that means “looking down on,” and it’s also inappropriate. Generous, (D), seems to imply that the author is somehow giving VanDerZee the benefit of the doubt, looking kindly on a career that really wasn’t as great as the author says it was. No such attitude is hinted at in the passage, so (C) is best.

35. A

Try to find facts in the passage to back up each statement. (B) is supported by lines 18–19; the author says that he “recorded a time, place and culture that might otherwise have slipped away.” (C) is found in lines 5–7; the author says the Harlem Renaissance “established Harlem as the most artistically vigorous African-American community in the nation.” (D) is described in lines 10–12; he produced portraits of “parents and children, brides and grooms, church groups, and women’s clubs.” (A) is not true because the passage says the photographer opened his studio on “the eve of the Harlem Renaissance,” meaning it was on the verge of occurring when he arrived in Harlem.

36. D

Look at the sentence “burgeoning” appears in. “VanDerZee captured the life and spirit of that burgeoning community.” That shows that the answer has something to do with something lively, ruling out (B) and (C). That leaves “beautiful” and “thriving.” (D) is the answer.

SECTION 4: MATHEMATICS
ACHIEVEMENT

1. A

Ralph's age is represented by x . Since Ralph is twice as old as Howie, Howie is half as old as Ralph, or $0.5x$.

2. A

If there are 3 blue marbles for every red marble, 1 out of every 4 marbles is red. Therefore, red marbles represent $\frac{1}{4}$ of all the marbles.

3. D

Average = $\frac{\text{Sum of terms}}{\text{Number of terms}}$, so the average temperature on Monday was

$$\begin{aligned}\text{Average} &= \frac{55^\circ + (-18^\circ) + 25^\circ + (-15^\circ)}{4} \\ &= \frac{80^\circ + (-33^\circ)}{4} \\ &= 11\frac{3}{4}^\circ = 11.75^\circ\end{aligned}$$

4. B

Looking at the pie chart, you can see that the slice that represents medium shirts represents about $\frac{1}{3}$ of the pie. The entire pie represents 1,200 shirts, so $\frac{1}{3}$ represents 400 shirts, (B).

5. C

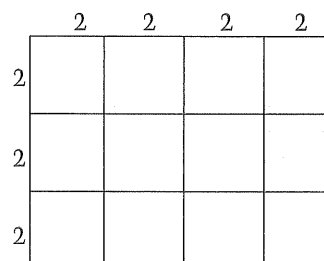
The slice that represents small shirts represents about $\frac{1}{4}$ of the pie. Since the whole pie is 1,200 shirts, there were 300 small shirts sold. Each shirt sold for \$5.95. The question asks approximately how much was spent on the small shirts, so estimate the price of a shirt to be \$6 to make the calculation easier. The choices are pretty far apart, so it's okay to do this. $300 \times \$6 = \$1,800$, so (C) is correct.

6. B

There are 60 seconds in a minute, so in $\frac{1}{20}$ of a minute there are $60 \times \frac{1}{20} = \frac{60}{20} = 3$ seconds.

7. B

Sketch yourself a diagram:



The 8-inch length can be divided into four 2-inch segments, and the 6-inch width can be divided into three 2-inch segments, which gives you a total of $4 \times 3 = 12$ squares.

8. C

Five percent of the guests at the party were witches.

There were 8 witches, so 8 represents 5 percent = $\frac{5}{100} = \frac{1}{20}$ of the guests. The total number of guests is $20 \times 8 = 160$.

9. D

Just plug into the formula: $9@8 = (9 \times 8) - (9 + 8) = 72 - 17 = 55$.

10. B

Plug into the formula and solve for N :

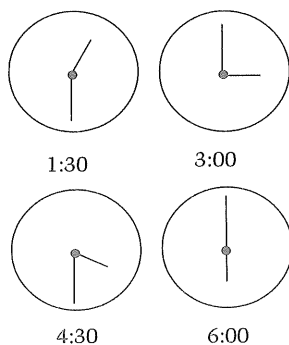
$$\begin{aligned}10@N &= -1 \\ (10 \times N) - (10 + N) &= -1 \\ 10N - 10 - N &= -1 \\ 9N - 10 &= -1 \\ 9N &= 9 \\ N &= 1\end{aligned}$$

11. D

If a CD collection can be evenly divided among 6 people, the number of CDs must be a multiple of 6. Only (D), 24, is a multiple of 6, since $6 \times 4 = 24$.

12. C

Make yourself a few quick sketches:



Only at 4:30 is the smaller angle less than 90° , so (C) is correct.

13. B

Carol spent $\frac{1}{2}$ of her day at work and $\frac{2}{3}$ of that time in meetings. So the amount of time she spent in meetings was $\frac{1}{2} \times \frac{2}{3} = \frac{2}{6} = \frac{1}{3}$ of her day.

14. A

If $\frac{1}{2}S = 0.2$, S is twice that, or $2 \times 0.2 = 0.4$. The answer choices are all given as fractions, so convert 0.4 to a fraction: 0.4 is four-tenths, or $\frac{4}{10}$, which reduces to $\frac{2}{5}$, (A).

15. A

Ten percent is one-fifth of 50%, so if 50% of a number is 75, 10% of that same number is $\frac{1}{5} \times 75 = 15$.

16. C

$$\frac{1}{2} + \frac{1}{3} = \frac{M}{12}$$

$$\frac{6}{12} + \frac{4}{12} = \frac{10}{12}$$

So $M = 10$.

17. D

Let w = the width of the rectangle. Its length is three times its width, or $3w$. Perimeter is equal to $2(l + w)$, where l and w represent length and width respectively. The perimeter is 32, so $2(l + w) = 32$. Plug in $3w$ for l : $2(3w + w) = 32$; $8w = 32$; $w = 4$.

18. A

It is possible to solve for each of the four variables, but it is really a waste of time. Note that each of the equations is equal to 35,460. Therefore, the largest variable will be the one with the smallest coefficient, because it takes fewer of a larger number to come up with the same product. Looking at the equations, you see that since 2,955 is the smallest coefficient, A must have the greatest value.

19. C

Let x = the number of foreign cars and set up a proportion.

$$\frac{3}{10} = \frac{x}{180}$$

$$(3)(180) = 10x$$

$$540 = 10x$$

$$54 = x$$

20. C

Plug in and solve.

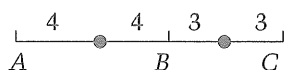
$$\begin{aligned} \text{If } N\% = N \times 10, 30\% + 2\% &= 30 \times 10 + 2 \times 10 \\ &= 300 + 20 \\ &= 320 \end{aligned}$$

21. C

To find the number of integers in an inclusive range, subtract the smaller integer from the larger and then add 1: $83 - 42 = 41 + 1 = 42$, (C).

22. C

Looking at the figure, you can see that $AB + BC = AC$. Therefore, $8 + BC = 14$, and $BC = 6$. The midpoint of AB divides it into two segments of length 4, and the midpoint of BC divides it into two segments of length 3. Therefore the distance between their midpoints is $4 + 3 = 7$.



23. C

Judy has 6 cards more than her brother. For each to have an equal number, she would have to split her 6 extra cards between them, that is, give him 3, while keeping 3 for herself. If this isn't clear, Pick Numbers. Say Judy's brother had 4 cards. That would mean Judy had $4 + 6 = 10$ cards. If she gave him 3, she'd have $10 - 3 = 7$, and he would have $4 + 3 = 7$.

24. D

Since $\text{Average} = \frac{\text{Sum of terms}}{\text{Number of terms}}$, $\text{Average} \times \text{Number of terms} = \text{Sum of terms}$. If Fred averaged 168 for his first three games, that means he scored a total of $3 \times 168 = 504$ points. With his last game Fred wants to score enough to raise his average by 5 points, bringing it up to $168 + 5 = 173$. That means he needs to score a total of $173 \times 4 = 692$ for all four games. Since he scored 504 in the first three games, he'd need to score $692 - 504 = 188$ in his last game.

25. D

Evaluate each statement. If you can come up with even one value for N that makes the statement true, eliminate it.

A: If $N = 0$, $0 \times 0 = 0$, and the statement is true—eliminate.

B: If $N = 1$, $1 \times 1 = 1$, and the statement is true—eliminate.

C: If $N = 1$, $1 \times 1 = 1$, and the statement is true—eliminate.

D: $N - 1 = N$, so $N = N + 1$. There is no value of N for which adding 1 to it will result in a sum of N , so this statement can never be true.

26. A

To find the numbers that are in both sets, start listing the integers greater than 6, but stop before you hit 11: 7, 8, 9, 10. There are 4, so (A) is correct.

27. A

If June has \$65, Mary has $\$65 + 30\%(\$65) = \$65 + \$19.50 = \$84.50$.

28. A

Nine is $\frac{1}{10}$, or 10%, of 90, so $x = 10$. Then 50%, or $\frac{1}{2}$, of 10 = 5.

29. B

Let x = the number of bottles capped in 1 minute and set up a proportion. Be sure to convert 1 minute into 60 seconds.

$$\frac{5}{2} = \frac{x}{60}$$

$$(5)(60) = 2x$$

$$300 = 2x$$

$$150 = x$$

30. A

Take this problem in steps: 20% of 100 is 20; 5% of 20 is $(0.05)(20) = 1$.

31. D

Keith answered 2 out of 10 questions, or $\frac{2}{10}$, incorrectly. Then $\frac{2}{10} = \frac{1}{5}$, or 20%, choice (D).

32. C

You know 6,985 is approximately 7,000 and 3,001 is approximately 3,000. Therefore the difference between 6,985 and 3,001 is approximately $7,000 - 3,000 = 4,000$, (C).

33. C

Convert to improper fractions: $1\frac{1}{3} - \frac{5}{6} = \frac{4}{3} - \frac{5}{6}$.

Find a common denominator: $\frac{16}{12} - \frac{10}{12} = \frac{6}{12} = \frac{1}{2}$.

34. B

Patty bought 2 hot dogs and a soda, and Liza bought 1 hot dog and a soda. Therefore the difference in what they paid, or $\$3.30 - \$2.15 = \$1.15$, is the price of 1 hot dog.

35. D

If one-fourth of a number is 3, the number is $4 \times 3 = 12$. One-third of 12 is 4, (D).

36. C

Rewrite $2 \times 4 \times 7 \times 9$ as $(2 \times 9)(4 \times 7)$ or 18×28 . (C) is correct.

37. A

$$12 + P = 20 - 2 \times 3$$

$$12 + P = 20 - 6$$

$$12 + P = 14$$

$$P = 2$$

38. B

One-tenth or 0.1 of 99 is 9.9, (B).

39. A

Twenty percent or $\frac{1}{5}$ of 30 is 6, (A).

40. A

$$\frac{64}{2 \times 4} = \frac{64}{8} = 8, (A).$$

41. D

$$\frac{81}{9} + 2 = 9 + 2 = 11, (D).$$

42. D

If there are 6 girls for every 2 boys, the ratio of girls to the entire class is $6:(6+2)$ or $6:8$, which reduces to $3:4$, (D).

43. A

So $\frac{48}{12} = \frac{4}{1}$, so $\frac{28}{a} = \frac{4}{1}$. Cross-multiply to get $28 = 4a$, and $a = 7$, (A).

44. D

For a number to be in both sets, it must be greater than 8 and less than 30. The only choice that falls in this range is 9, (D).

45. B

You can determine $\frac{18+16}{4} = \frac{34}{4} = 8\frac{1}{2} = 8.5$, (B).

46. B

Pick Numbers. All of the choices, except (B), can be ruled out by squaring the first few integers. $1^2 = 1$; $5^2 = 25$; $6^2 = 36$. Nothing squared ends in 3.

47. A

If $0.2J = 1,500$, then $J = 0.1,500 = 7,500$. So $0.15J = 0.15(7,500) = 1,125$.