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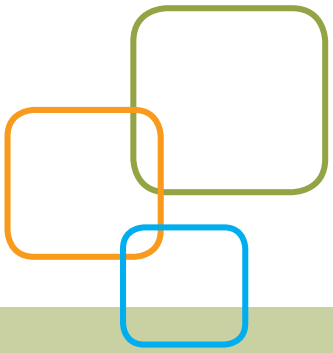

ACCUPLACER®

Sample Questions for Students

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Sentence Skills

In an ACCUPLACER® placement test, there are 20 Sentence Skills questions of two types.

- The first type consists of sentence-correction questions that require an understanding of sentence structure. These questions ask you to choose the most appropriate word or phrase for the underlined portion of the sentence.
- The second type consists of construction-shift questions. These questions ask that a sentence be rewritten according to the criteria shown while maintaining essentially the same meaning as the original sentence.

Within these two primary categories, the questions are also classified according to the skills being tested. Some questions deal with the logic of the sentence, others with whether or not the answer is a complete sentence, and still others with the relationship between coordination and subordination.

Sentence Skills Sample Questions

Directions for questions 1–11

Select the best version of the underlined part of the sentence. The first choice is the same as the original sentence. If you think the original sentence is best, choose the first answer.

1. Stamp collecting <u>being a hobby that is</u> sometimes used in the schools to teach economics and social studies.
   A. being a hobby that is
   B. is a hobby because it is
   C. which is a hobby
   D. is a hobby

2. <u>Knocked sideways, the statue looked</u> as if it would fall.
   A. Knocked sideways, the statue looked
   B. The statue was knocked sideways, looked
   C. The statue looked knocked sideways
   D. The statue, looking knocked sideways,

3. <u>To walk, biking, and driving</u> are Pat's favorite ways of getting around.
   A. To walk, biking, and driving
   B. Walking, biking, and driving
   C. To walk, biking, and to drive
   D. To walk, to bike, and also driving

4. <u>When you cross the street in the middle of the block, this</u> is an example of jaywalking.
   A. When you cross the street in the middle of the block, this
   B. You cross the street in the middle of the block, this
   C. Crossing the street in the middle of the block
   D. The fact that you cross the street in the middle of the block

5. Walking by the corner the other day, <u>a child, I noticed, was watching</u> for the light to change.
   A. a child, I noticed, was watching
   B. I noticed a child watching
   C. a child was watching, I noticed,
   D. there was, I noticed, a child watching

6. <u>Going back to his old school,</u> everything there looked smaller than Don remembered.
   A. Going back to his old school,
   B. When he went back to his old school,
   C. To go back to his old school,
   D. As he went back to his old school,

7. <u>Painting, drawing and to sculpt</u> are some of the techniques artists such as Picasso used to express themselves.
   A. Painting, drawing and to sculpt
   B. To paint, to draw, and sculpting
   C. Painting, drawing, and sculpting
   D. To paint, draw, and sculpting

8. Playing sports in school <u>which is an activity</u> meant to teach teamwork and leadership skills students can use later in life.
   A. which is an activity
   B. is an activity because it is
   C. being an activity which is
   D. is an activity

9. <u>Glancing at his watch,</u> Daniel picked up his speed.
   A. Glancing at his watch,
   B. He glanced at his watch, and
   C. To glance at his watch,
   D. He glanced at his watch,

10. <u>For a snake, shedding their skin</u> up to eight times a year is part of a natural process.
    A. For a snake, shedding their skin
    B. A snake's shedding its skin
    C. When a snake sheds its skin
    D. To shed its skin, for snakes

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11. I was surprised by the noise peering through the window to see who was at the door.
    A. I was surprised by the noise peering
    B. I was surprised by the noise, peered
    C. The noise surprised me, peering
    D. Surprised by the noise, I peered

Directions for questions 12–22

Rewrite the sentence in your head following the directions given below. Keep in mind that your new sentence should be well written and should have essentially the same meaning as the original sentence.

12. It is easy to carry solid objects without spilling them, but the same cannot be said of liquids.

    Rewrite, beginning with

    Unlike liquids,

    The next words will be
    A. it is easy to
    B. we can easily
    C. solid objects can easily be
    D. solid objects are easy to be

13. Although the sandpiper is easily frightened by noise and light, it will bravely resist any force that threatens its nest.

    Rewrite, beginning with

    The sandpiper is easily frightened by noise and light,

    The next words will be
    A. but it will bravely resist
    B. nevertheless bravely resisting
    C. and it will bravely resist
    D. even if bravely resisting

14. If he had enough strength, Todd would move the boulder.

    Rewrite, beginning with

    Todd cannot move the boulder

    The next words will be
    A. when lacking
    B. because he
    C. although there
    D. without enough

15. The band began to play, and then the real party started.

    Rewrite, beginning with

    The real party started

    The next words will be
    A. after the band began
    B. and the band began
    C. although the band began
    D. the band beginning

16. Chris heard no unusual noises when he listened in the park.

    Rewrite, beginning with

    Listening in the park,

    The next words will be
    A. no unusual noises could be heard
    B. then Chris heard no unusual noises
    C. and hearing no unusual noises
    D. Chris heard no unusual noises

17. It is unusual to see owls during the daytime, since they are nocturnal animals.

    Rewrite, beginning with

    Being nocturnal animals,

    The next words will be
    A. it is unusual to see owls
    B. owls are not usually seen
    C. owls during the daytime are
    D. it is during the daytime that

18. If I want your opinion, I will ask for it.

    Rewrite, beginning with

    I won't ask for your opinion

    The next words will be
    A. if I want it
    B. when I want it
    C. although I want it
    D. unless I want it

19. It began to rain, and everyone at the picnic ran to the trees to take shelter.

    Rewrite, beginning with

    Everyone at the picnic ran to the trees to take shelter

    The next words will be
    A. beginning to rain
    B. when it began to rain
    C. although it began to rain
    D. and it began to rain

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20. Lucy saw an amazing sight when she witnessed her first sunrise.

    Rewrite, beginning with

    Witnessing her first sunrise,

    The next words will be

    A. an amazing sight was seen
    B. when Lucy saw an amazing sight
    C. Lucy saw an amazing sight
    D. seeing an amazing sight

21. After three hours of walking the museum, the entire family felt in need of a rest.

    Rewrite, beginning with

    The entire family felt in need of a rest

    The next words will be

    A. walking through the museum for three hours
    B. having walked through the museum for three hours
    C. and they walked through the museum for three hours
    D. despite having walked through the museum for three hours

22. The big celebration meal was over, and everyone began to feel sleepy.

    Rewrite, beginning with

    Everyone began to feel sleepy

    The next words will be

    A. and the big celebration meal
    B. before the big celebration meal
    C. after the big celebration meal
    D. although the big celebration meal

Reading Comprehension

In an ACCUPLACER placement test, there are 20 questions of two primary types in Reading Comprehension.

- The first type of question consists of a reading passage followed by a question based on the text. Both short and long passages are provided. The reading passages can also be classified according to the kind of information processing required, including explicit statements related to the main idea, explicit statements related to a secondary idea, application, and inference.
- The second type of question, sentence relationships, presents two sentences followed by a question about the relationship between these two sentences. The question may ask, for example, if the statement in the second sentence supports that in the first, if it contradicts it, or if it repeats the same information.

Reading Comprehension Sample Questions

Directions for questions 1–9

Read the statement or passage and then choose the best answer to the question. Answer the question based on what is stated or implied in the statement or passage.

1. In the words of Thomas De Quincey, "It is notorious that the memory strengthens as you lay burdens upon it." If, like most people, you have trouble recalling the names of those you have just met, try this: The next time you are introduced, plan to remember the names. Say to yourself, "I'll listen carefully; I'll repeat each person's name to be sure I've got it, and I will remember." You'll discover how effective this technique is and probably recall those names for the rest of your life.

   The quotation from De Quincey indicates that the memory

   A. always operates at peak efficiency
   B. breaks down under great strain
   C. improves if it is used often
   D. becomes unreliable if it tires

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2. Unemployment was the overriding fact of life when Franklin D. Roosevelt became president of the United States on March 4, 1933. At the time, the government did not systematically collect statistics of joblessness; actually it did not start doing so until 1940. The Bureau of Labor Statistics later estimated that 12,830,000 persons were out of work in 1933, about one-fourth of a civilian labor force of more than 51 million.

   Roosevelt signed the Federal Emergency Relief Act on May 12, 1933. The president selected Harry L. Hopkins, who headed the New York relief program, to run FERA. A gifted administrator, Hopkins quickly put the program into high gear. He gathered a small staff in Washington and brought the state relief organizations into the FERA system. While the agency tried to provide all the necessities, food came first. City dwellers usually got an allowance for fuel, and rent for one month was provided in case of eviction.

   This passage is primarily about

   A. methods of estimating unemployment rates in the 1930s
   B. the effect of unemployment on United States families
   C. President Franklin D. Roosevelt's presidency
   D. the creation of President Roosevelt's FERA program

3. With varying success, many women around the world today struggle for equal rights. Historically, women have achieved greater equality with men during periods of social adversity. The following factors initiated the greatest number of improvements for women: violent revolution, world war, and the rigors of pioneering in an undeveloped land. In all three cases, the essential element that improved the status of women was a shortage of men, which required women to perform many of society's vital tasks.

   We can conclude from the information in this passage that

   A. women today are highly successful in winning equal rights
   B. only pioneer women have been considered equal to men
   C. historically, women have only achieved equality through force
   D. historically, the principle of equality alone has not been enough to secure women equal rights

4. All water molecules form six-sided structures as they freeze and become snow crystals. The shape of a snow crystal is determined by temperature, vapor, and wind conditions in the upper atmosphere. A snow crystal is always symmetrical because these conditions affect all six of its sides simultaneously.

   The purpose of the passage is to present

   A. a personal observation
   B. a solution to a problem
   C. factual information
   D. opposing scientific theories

5. In the words of Thomas De Quincey, "It is notorious that the memory strengthens as you lay burdens upon it." If, like most people, you have trouble recalling the names of those you have just met, try this: The next time you are introduced, plan to remember the names. Say to yourself, "I'll listen carefully; I'll repeat each person's name to be sure I have it, and I will remember." You'll discover how effective this technique is and probably recall those names for the rest of your life.

   The passage suggests that people remember names best when they

   A. meet new people
   B. are intelligent
   C. decide to do so
   D. are interested in people

6. Many people have owned, or have heard of, traditional "piggy banks," coin banks shaped like pigs. A logical theory about how this tradition started might be that because pigs often symbolize greed, the object is to "fatten" one's piggy bank with as much money as possible.

   However, while this idea makes sense, it is not the correct origin of the term. The genesis of the piggy bank is the old English word "pygg," which was a common kind of clay hundreds of years ago in England. People used pots and jars made out of this red "pygg" clay for many different purposes in their homes. Sometimes they kept their money in one of the pots, and this was known as a pygg bank. Over the years, because "pygg" and "pig" sounded the same, glaziers began making novelty banks out of pottery in the shape of a pig as a kind of joke. These banks were given as gifts and exported to countries where people spoke other languages and where no one had ever heard of pygg clay. The tradition caught on all over the world, and today piggy banks come in all colors and are made of all kinds of materials, including plastic.

   This passage is mainly about how

   A. people in different countries save their money
   B. people in England made pottery centuries ago
   C. a common term originated in a surprising way
   D. an unusual custom got started

7. The wheel is considered one of the most important mechanical inventions of all time. Many technologies since the invention of the wheel have been based on its principles, and since the industrial revolution, the wheel has been a basic element of nearly every machine constructed by humankind. No one knows the exact time and place of the invention of the wheel, but its beginnings can be seen across many ancient civilizations.

   The passage suggests that the wheel is an important invention because it

   A. is one of the world's oldest inventions
   B. forms the basis of so many later inventions
   C. can be traced to many ancient cultures
   D. is one the world's most famous inventions

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8. Samuel Morse, best known today as the inventor of Morse Code and one of the inventors of the telegraph, was originally a prominent painter. While he was always interested in technology and studied electrical engineering in college, Morse went to Paris to learn from famous artists of his day and later painted many pictures that now hang in museums, including a portrait of former President John Adams. In 1825, Morse was in Washington, D.C., painting a portrait of the Marquis de Lafayette when a messenger arrived on horseback to tell him that his wife was gravely ill back at his home in Connecticut. The message had taken several days to reach him because of the distance. Morse rushed to his home as fast as he could, but his wife had already passed away by the time he arrived. Grief-stricken, he gave up painting and devoted the rest of his life to finding ways to transmit messages over long distances faster.

   Morse left the art world and helped to invent the telegraph because he

   A. was tired of painting
   B. wanted to communicate with people far away
   C. experienced a personal tragedy in his life
   D. was fascinated by science

9. Leonardo da Vinci is not only one of the most famous artists in history, but he was also a botanist, a writer, and an inventor. Even though most of his inventions were not actually built in his lifetime, many of today's modern machines can be traced back to some of his original designs. The parachute, the military tank, the bicycle, and even the airplane were foretold in the imaginative drawings that can still be seen in the fragments of da Vinci's notebooks. Over 500 years ago, this man conceived ideas that were far ahead of his time.

   The author of this passage is praising da Vinci primarily for his

   A. artistic talent
   B. intelligence
   C. foresight
   D. fame

Directions for questions 10–18

For the questions that follow, two underlined sentences are followed by a question or statement. Read the sentences, then choose the best answer to the question or the best completion of the statement.

10. The Midwest is experiencing its worst drought in 15 years.

    Corn and soybean prices are expected to be very high this year.

    What does the second sentence do?

    A. It restates the idea found in the first.
    B. It states an effect.
    C. It gives an example.
    D. It analyzes the statement made in the first.

11. Social studies classes focus on the complexity of our social environment.

    The subject combines the study of history and the social sciences and promotes skills in citizenship.

    What does the second sentence do?

    A. It expands on the first sentence.
    B. It makes a contrast.
    C. It proposes a solution.
    D. It states an effect.

12. Knowledge of another language fosters greater awareness of cultural diversity among the peoples of the world.

    Individuals who have foreign language skills can appreciate more readily other peoples' values and ways of life.

    How are the two sentences related?

    A. They contradict each other.
    B. They present problems and solutions.
    C. They establish a contrast.
    D. They repeat the same idea.

13. While most people think of dogs as pets, some dogs are bred and trained specifically for certain types of work.

    The bloodhound's acute sense of smell and willing personality make it ideal for tracking lost objects or people.

    What does the second sentence do?

    A. It makes a contrast.
    B. It restates an idea found in the first.
    C. It states an effect.
    D. It gives an example.

14. Paris, France, is a city that has long been known as a center of artistic and cultural expression.

    In the 1920s, Paris was home to many famous artists and writers from around the world, such as Picasso and Hemingway.

    What does the second sentence do?

    A. It reinforces the first.
    B. It states an effect.
    C. It draws a conclusion.
    D. It provides a contrast.

15. Studies show that the prevalence of fast-food restaurants corresponds with the rates of obesity in both children and adults.

    Obesity is now on the rise in countries where fast-food restaurants are becoming more common.

    How do the two sentences relate?

    A. They express roughly the same idea.
    B. They contradict each other.
    C. They present problems and solutions.
    D. They establish a contrast.

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16. Compared with the rest of the country, North Dakota has a thriving economy, making it a place where more people want to live.

    With temperatures in January ranging from 2 to 17 degrees Fahrenheit, winters in North Dakota are viewed by some prospective residents as inhospitable.

    What does the second sentence do?

    A. It reinforces the first.
    B. It explains what is stated in the first.
    C. It contradicts the first.
    D. It analyzes a statement made in the first.

17. Some stores are testing a new checkout system that allows shoppers to use their mobile phones to scan items as they walk through stores and pay at self-service kiosks, skipping the cashiers' lines.

    The new mobile checkout system reduces long lines and customer wait times in stores.

    What does the second sentence do?

    A. It expands on the first.
    B. It states an effect.
    C. It contrasts with the first.
    D. It gives an example.

18. According to the American Sleep Disorders Association, the average teenager needs around 9.5 hours of sleep per night, possibly because critical growth hormones are released during sleep.

    The average adult requires between six and eight hours of sleep per night for optimal health and productivity.

    How do the two sentences relate?

    A. They establish a contrast.
    B. They contradict each other.
    C. They reinforce each other.
    D. They provide a problem and solution.

WritePlacer®

This test measures your ability to write effectively, which is critical to academic success.

Your writing sample will be scored on the basis of how effectively it communicates a whole message to the readers for the stated purpose. Your score will be based on your ability to express, organize and support your opinions and ideas, not the position you take on the essay topic. The following five characteristics of writing will be considered:

- Focus — The clarity with which you maintain your main idea or point of view
- Organization — The clarity with which you structure your response and present a logical sequence of ideas
- Development and Support — The extent to which you elaborate on your ideas and the extent to which you present supporting details
- Sentence Structure — The effectiveness of your sentence structure
- Mechanical Conventions — The extent to which your writing is free of errors in usage and mechanics

WritePlacer Sample Topic

Prepare a multiple-paragraph writing sample of about 300–600 words on the topic below. You should use the time available to plan, write, review and edit what you have written. Read the assignment carefully before you begin to write.

Some schools require each student to participate in an organized school sport chosen by the student. People at these schools argue that athletics is an important part of the educational experience and that there should be a rule requiring participation. Others argue that students should be free to decide whether or not they wish to participate in organized school sports. Write an essay for a classroom instructor in which you take a position on whether participation in organized school athletics should be required. Be sure to defend your position with logical arguments and appropriate examples. Your essay must be 300–600 words in length.

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Arithmetic

There are 17 questions administered on the Arithmetic test, divided into the following content areas:

- Operations with whole numbers and fractions. Topics include addition, subtraction, multiplication, division, recognizing equivalent fractions and mixed numbers, and estimating.
- Operations with decimals and percents. Topics include addition, subtraction, multiplication, and division with decimals; percent problems; recognition of decimals; percent equivalencies; and estimating.
- Applications and problem solving. Topics include rate, percent and measurement problems; simple geometry problems; and distribution of a quantity into its fractional parts.

Arithmetic Sample Questions

For each of the questions below, choose the best answer from the four choices given. You may use the paper you received as scratch paper.

1. $2.75 + 0.003 + 0.158 =$

   A. 0.436
   B. 2.911
   C. 2.938
   D. 4.36

2. $7.86 \times 4.6 =$

   A. 36.156
   B. 36.216
   C. 351.56
   D. 361.56

3. $\frac{7}{20} =$

   A. 0.035
   B. 0.35
   C. 0.858
   D. 3.5

4. Which of the following is the least?

   A. 0.105
   B. 0.501
   C. 0.015
   D. 0.15

5. All of the following are ways to write 25 percent of N EXCEPT

   A. $(0.25)N$
   B. $\frac{25}{100} N$
   C. $\frac{1}{4} N$
   D. $25N$

6. Which of the following is closest to 27.8×9.6?

   A. 280
   B. 300
   C. 2,800
   D. 3,000

7. A soccer team played 160 games and won 65 percent of them. How many games did the team win?

   A. 94
   B. 104
   C. 114
   D. 124

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8. There are 3 people who work full-time and are to work together on a project, but their total time on the project is to be equivalent to that of only one person working full-time. If one of the people is budgeted for $\frac{1}{2}$ of his time to the project and a second person for $\frac{1}{3}$ of her time, what part of the third worker's time should be budgeted to this project?

   A. $\frac{1}{8}$
   B. $\frac{1}{6}$
   C. $\frac{1}{3}$
   D. $\frac{3}{5}$

9. 32 is 40% of what number?

   A. 12.8
   B. 128
   C. 80
   D. 800

10. $3\frac{1}{3} - 2\frac{2}{5} =$

   A. $\frac{1}{15}$
   B. $\frac{14}{15}$
   C. $1\frac{1}{15}$
   D. $1\frac{1}{2}$

11. $2\frac{1}{2} + 4\frac{2}{3} =$

   A. $6\frac{1}{6}$
   B. $6\frac{5}{6}$
   C. $7\frac{1}{6}$
   D. $7\frac{5}{6}$

12. What is $\frac{1{,}345}{99}$ rounded to the nearest integer?

   A. 12
   B. 13
   C. 14
   D. 15

13. Three of four numbers have a sum of 22. If the average of the four numbers is 8, what is the fourth number?

   A. 4
   B. 6
   C. 8
   D. 10

14. $46.2 \times 10^{-2} =$

   A. 0.0462
   B. 0.462
   C. 4.62
   D. 462

15. If $\frac{3}{2} \div \frac{1}{4} = n$, then n is between

   A. 1 and 3
   B. 3 and 5
   C. 5 and 7
   D. 7 and 9

16. What is 12% of 120?

   A. 10
   B. 14.4
   C. 18.4
   D. 28.8

17. A box in a college bookstore contains books, and each book in the box is a history book, an English book or a science book. If $\frac{1}{3}$ of these books are history books and $\frac{1}{6}$ are English books, what fraction of the books are science books?

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

18. The measures of two angles of a triangle are 35° and 45°. What is the measure of the third angle of the triangle?

   A. 95°
   B. 100°
   C. 105°
   D. 110°

19. Erica bought $3\frac{1}{2}$ yards of fabric. If she uses $\frac{2}{3}$ of the fabric to make a curtain, how much will she have left?

   A. $\frac{1}{6}$ yard
   B. $\frac{1}{3}$ yard
   C. $1\frac{1}{6}$ yards
   D. $2\frac{1}{3}$ yards

20. Jen wants to tile the floor of her kitchen. The floor is rectangular and measures 12 feet by 8 feet. If it costs $2.50 per square foot for the materials, what is the total cost of the materials for tiling the kitchen floor?

   A. $160
   B. $200
   C. $220
   D. $240

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Elementary Algebra

There are 12 questions administered on the Elementary Algebra test, divided into the following content areas:

- Numbers and quantities. Topics include integers and rational numbers, computation with integers and negative rationals, absolute value, and ordering.
- Algebraic expressions. Topics include evaluation of simple formulas and expressions, adding and subtracting monomials and polynomials, multiplying and dividing monomials and polynomials, evaluating positive rational roots and exponents, simplifying algebraic fractions, and factoring.
- Problem solving. Topics include translating written phrases into algebraic expressions, solving linear equations and inequalities, quadratic equations (by factoring), and verbal problems presented in an algebraic context.

Elementary Algebra Sample Questions

For each of the questions below, choose the best answer from the four choices given. You may use the paper you received as scratch paper.

1. If A represents the number of apples purchased at 15 cents each, and B represents the number of bananas purchased at 10 cents each, which of the following represents the total value of the purchases in cents?

   A. $A + B$
   B. $25(A + B)$
   C. $10A + 15B$
   D. $15A + 10B$

2. $\sqrt{2} \times \sqrt{15} = ?$

   A. $\sqrt{17}$
   B. $\sqrt{30}$
   C. 17
   D. 30

3. What is the value of the expression $2x^2 + 3xy - 4y^2$ when $x = 2$ and $y = -4$?

   A. -80
   B. -32
   C. 32
   D. 80

4. In the figure below, both circles have the same center, and the radius of the larger circle is R. If the radius of the smaller circle is 3 units less than R, which of the following represents the area of the shaded region?

   A. πR^2
   B. $\pi(R - 3)^2$
   C. $\pi R^2 - \pi \times 3^2$
   D. $\pi R^2 - \pi(R - 3)^2$

5. $(3x - 2y)^2 =$

   A. $9x^2 - 4y^2$
   B. $9x^2 + 4y^2$
   C. $9x^2 - 6xy + 4y^2$
   D. $9x^2 - 12xy + 4y^2$

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6. If $x > 2$, then $\frac{x^2 - x - 6}{x^2 - 4} =$

   A. $\frac{x-3}{2}$
   B. $\frac{x-3}{x-2}$
   C. $\frac{x-3}{x+2}$
   D. $\frac{3}{2}$

7. $\frac{4-(-6)}{-5} =$

   A. -2
   B. $-\frac{2}{5}$
   C. $\frac{2}{5}$
   D. 2

8. If $2x - 3(x + 4) = -5$, then $x =$

   A. -17
   B. -7
   C. 7
   D. 17

9. $-3(5 - 6) - 4(2 - 3) =$

   A. -7
   B. -1
   C. 1
   D. 7

10. $20 - \frac{4}{5}x \geq 16$

    Which of the following inequalities is equivalent to the inequality shown above?

    A. $x \leq 5$
    B. $x \geq 5$
    C. $x \leq \frac{65}{2}$
    D. $x \geq \frac{65}{2}$

11. Which of the following lists of numbers is ordered from least to greatest?

    A. $-\frac{1}{3}, -\frac{3}{5}, \frac{2}{3}, \frac{3}{5}$
    B. $-\frac{3}{5}, -\frac{1}{3}, \frac{3}{5}, \frac{2}{3}$
    C. $-\frac{1}{3}, -\frac{3}{5}, \frac{3}{5}, \frac{2}{3}$
    D. $-\frac{3}{5}, -\frac{1}{3}, \frac{2}{3}, \frac{3}{5}$

12. If $5t + 2 = 6$, then $t =$

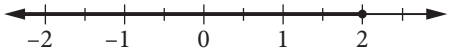
    A. 8
    B. $\frac{5}{4}$
    C. $\frac{4}{5}$
    D. -8

13. For which of the following equations are $x = 5$ and $x = -5$ both solutions?

    A. $x^2 + 25 = 0$
    B. $x^2 - 25 = 0$
    C. $x^2 + 10x - 25 = 0$
    D. $x^2 - 5x - 25 = 0$

14. If $x \neq 0$, then $\frac{u}{x} + \frac{5u}{x} - \frac{u}{5x} =$

    A. $\frac{7x}{5u}$
    B. $\frac{5u}{7x}$
    C. $\frac{29u}{5x}$
    D. $\frac{31u}{5x}$

15. 

    The solution set of which of the following inequalities is graphed on the number line above?

    A. $2x - 4 \geq -3$
    B. $2x + 5 \leq 6$
    C. $3x - 1 \leq 5$
    D. $4x - 1 \geq 7$

16. $2x + 6y = 5$
    $x + 3y = 2$

    How many solutions (x, y) are there to the system of equations above?

    A. None
    B. One
    C. Two
    D. More than two

17. Which of the following is a factor of both $x^2 - x - 6$ and $x^2 - 5x + 6$?

    A. $x - 3$
    B. $x - 2$
    C. $x + 2$
    D. $x + 3$

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18. $\frac{10x^6 + 8x^4}{2x^2} =$

A. $9x^{12}$
B. $14x^4$
C. $5x^4 + 4x^2$
D. $5x^3 + 2x^2$

19. A rectangular yard has area 96 square feet. If the width of the yard is 4 feet less than the length, what is the perimeter, in feet, of the yard?

A. 40
B. 44
C. 48
D. 52

20. On Monday, it took Helen 3 hours to do a page of science homework exercises. The next day she did the same number of exercises in 2 hours. If her average rate on Monday was p exercises per hour, what was her average rate the next day, in terms of p?

A. $2(p + 1)$ exercises per hour
B. $3(p - 1)$ exercises per hour
C. $\frac{2}{3}p$ exercises per hour
D. $\frac{3}{2}p$ exercises per hour

College-Level Mathematics

There are 20 questions administered on the College-Level Mathematics test, divided into the following content areas:

- Algebraic operations. Topics include simplifying rational algebraic expressions, factoring and expanding polynomials, and manipulating roots and exponents.
- Solutions of equations and inequalities. Topics include solving linear and quadratic equations and inequalities, systems of equations and other algebraic equations.
- Coordinate geometry. Topics include plane geometry, the coordinate plane, straight lines, conics, sets of points in the plane, and algebraic function graphs.
- Functions. Topics include polynomial, algebraic, exponential, and logarithmic functions.
- Trigonometry. Topics include trigonometric functions.
- Applications and other topics. Topics include complex numbers, series and sequences, determinants, permutations and combinations, factorials, and word problems.

College-Level Mathematics Sample Questions

For each of the questions below, choose the best answer from the five choices given. You may use the paper you received as scratch paper.

1. $2^{\frac{5}{2}} - 2^{\frac{3}{2}} =$

A. $2^{\frac{1}{2}}$
B. 2
C. $2^{\frac{3}{2}}$
D. $2^{\frac{5}{3}}$
E. 2^2

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2. If $a \neq b$ and $\frac{1}{x} + \frac{1}{a} = \frac{1}{b}$, then $x =$

   A. $\frac{1}{b} - \frac{1}{a}$
   B. $b - a$
   C. $\frac{1}{ab}$
   D. $\frac{a-b}{ab}$
   E. $\frac{ab}{a-b}$

3. If $3x^2 - 2x + 7 = 0$, then $\left(x - \frac{1}{3}\right)^2 =$

   A. $\frac{20}{9}$
   B. $\frac{7}{9}$
   C. $-\frac{7}{9}$
   D. $-\frac{8}{9}$
   E. $-\frac{20}{9}$

4. The graph of which of the following equations is a straight line parallel to the graph of $y = 2x$?

   A. $4x - y = 4$
   B. $2x - 2y = 2$
   C. $2x - y = 4$
   D. $2x + y = 2$
   E. $x - 2y = 4$

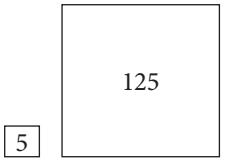
5. An equation of the line that contains the origin and the point (1, 2) is

   A. $y = 2x$
   B. $2y = x$
   C. $y = x - 1$
   D. $y = 2x + 1$
   E. $\frac{y}{2} = x - 1$

6. An apartment building contains 12 units consisting of one- and two-bedroom apartments that rent for $360 and $450 per month, respectively. When all units are rented, the total monthly rental is $4,950. What is the number of two-bedroom apartments?

   A. 3
   B. 4
   C. 5
   D. 6
   E. 7

7. If the two square regions in the figures below have the respective areas indicated in square yards, how many yards of fencing are needed to enclose the two regions? (Assume the regions are fenced separately.)



   A. $4\sqrt{130}$
   B. $20\sqrt{10}$
   C. $24\sqrt{5}$
   D. 100
   E. $104\sqrt{5}$

8. If $\log_{10} x = 3$, then $x =$

   A. 3^{10}
   B. 1,000
   C. 30
   D. $\frac{10}{3}$
   E. $\frac{3}{10}$

9. If $f(x) = 2x + 1$ and $g(x) = \frac{x-1}{2}$, then $f(g(x)) =$

   A. x
   B. $\frac{x-1}{4x+2}$
   C. $\frac{4x+2}{x-1}$
   D. $\frac{5x+1}{2}$
   E. $\frac{(2x+1)(x-1)}{2}$

10. If θ is an acute angle and $\sin\theta = \frac{1}{2}$, then $\cos\theta =$

    A. -1
    B. 0
    C. $\frac{1}{2}$
    D. $\frac{\sqrt{3}}{2}$
    E. 2

11. $5y(2y - 3) + (2y - 3) =$

    A. $(5y + 1)(2y + 3)$
    B. $(5y + 1)(2y - 3)$
    C. $(5y - 1)(2y + 3)$
    D. $(5y - 1)(2y - 3)$
    E. $10y(2y - 3)$

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12. For what real numbers x is the value of $x^2 - 6x + 9$ negative?

A. $-3 < x < 3$
B. $x < -3$ or $x > 3$
C. $x = -3$ or $x = 3$
D. $0 < x < 6$
E. For no real numbers x

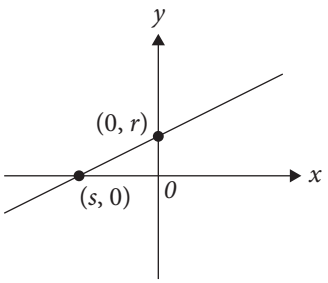
13. A root of $x^2 - 5x - 1 = 0$ is

A. $\frac{1-\sqrt{29}}{2}$
B. $\frac{5-\sqrt{17}}{2}$
C. $\frac{1+\sqrt{29}}{2}$
D. $\frac{5+\sqrt{17}}{2}$
E. $\frac{5+\sqrt{29}}{2}$

14. In the xy-plane, the graph of $y = x^2$ and the circle with center (0, 1) and radius 3 have how many points of intersection?

A. None
B. One
C. Two
D. Three
E. More than three

15.



If an equation of the linear function in the figure above is $y = mx + b$, then $m =$

A. $-\frac{r}{s}$
B. $\frac{r}{s}$
C. rs
D. r
E. $-s$

16. One ordering of the letters T, U, V, and W from left to right is $UTVW$. What is the total number of orderings of these letters from left to right, including $UTVW$?

A. 8
B. 12
C. 16
D. 20
E. 24

17. If $f(x) = \frac{3x-1}{2}$ and f^{-1} is the inverse of f, what is the value of $f^{-1}(3)$?

A. $\frac{1}{3}$
B. $\frac{2}{3}$
C. 1
D. 2
E. $\frac{7}{3}$

18. The sequence $\{a_n\}$ is defined by $a_0 = 1$ and $a_{n+1} = 2a_n + 2$ for $n = 0, 1, 2, \ldots$. What is the value of a_3?

A. 8
B. 10
C. 16
D. 20
E. 22

19. From 5 employees at a company, a group of 3 employees will be chosen to work on a project. How many different groups of 3 employees can be chosen?

A. 3
B. 5
C. 6
D. 10
E. 15

20. If $f(x) = \left(\frac{1}{3}\right)^x$ and $a < b$, which of the following must be true?

A. $f(a) + f(b) = 3$
B. $f(a) + \frac{1}{3} = f(b)$
C. $f(a) = f(b)$
D. $f(a) < f(b)$
E. $f(a) > f(b)$

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ESL Reading Skills

The ESL Reading Skills test measures your ability to read English. Specifically, it assesses your comprehension of short passages. It contains brief passages of 50 words or less and moderate length passages of 50 to 90 words. Half of this test contains straightforward comprehension items (paraphrase, locating information, vocabulary on a phrase level, and pronoun reference). The other half assesses inference skills (main idea, fact versus opinion, cause/effect logic, identifying irrelevant information, author's point of view and applying the author's logic to another situation).

ESL Reading Skills Sample Questions

Read the information below, then choose the best answer.

1. Television has been introduced to almost every country in the world, reaching a large number of viewers on every continent. About 600 million people saw the first person walk on the moon, and a billion people watched the twentieth Olympic Games. Television has in many ways promoted understanding and cooperation among people. It does this by showing educational and cultural programs.

   From this passage, a reader can most reasonably conclude that the author believes that

   A. people spend too much time watching television
   B. not every country needs to have television
   C. television can unify people from around the world
   D. television is as important as schools

2. People have different ways of learning. Some are better at making mental pictures of new ideas. Others are more comfortable with writing lists of things to memorize. Certain people can learn best when listening to music, while others need silence to concentrate.

   Which of the following is the main idea of the passage?

   A. Mental pictures help many to learn.
   B. Some people prefer lists to making mental pictures.
   C. To learn well you need to be comfortable.
   D. Different individuals have different ways of acquiring information.

3. If you hold a piece of copper wire over the flame of a wooden match, heat will be conducted by the copper wire to your fingers, and you will be forced to drop the wire. You will, however, still be able to hold the match because wood is a poor conductor of heat.

   Which of the following is implied in the passage above?

   A. Copper is a good conductor of heat.
   B. Wood and copper conduct heat equally.
   C. Wood is an excellent conductor of heat.
   D. Matches should be made of copper.

4. Many people own different pets. Dogs, cats, birds, and fish are common household pets. Others pets are considered to be exotic animals. These include snakes, lizards, and hedgehogs.

   According to the passage, snakes are

   A. uncommon pets
   B. likely to be found in a household with dogs
   C. found only in zoos
   D. not allowed in people's homes

5. Cesar Chavez was an influential leader for farmworkers. He fought for their rights and better working conditions. Chavez led many strikes that angered farm owners. Eventually he succeeded in getting increased wages and better living situations for farmworkers.

   The passage indicates that Chavez changed lives by

   A. helping to end the farmworkers' strikes
   B. fighting for the rights of farm owners
   C. working on the farms every day
   D. improving the conditions for farmworkers

6. When cartoonist Charles M. Schulz was a boy in elementary school, other boys teased him for being small and not very good at sports, and his art teacher told him he had no talent for drawing. He had few friends and was too shy to talk to a red-haired girl he admired. Later in life, Schulz used his childhood experiences in his comic strip *Peanuts*: the strip's main character, the sad and lonely Charlie Brown, represents Shulz as a little boy. *Peanuts* was unique at the time because it contained no adult characters. Readers fell in love with Charlie Brown, and *Peanuts* eventually became one of the most popular comic strips of all time.

   What is the main idea of the passage?

   A. *Peanuts* was the world's most widely read comic strip.
   B. Schulz was a very famous cartoonist.
   C. Schulz turned the pain of his youth into success as an adult.
   D. The comic strip *Peanuts* featured children as its only characters.

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7. Money has been used for thousands of years in nearly every culture as a means of exchange. However, today, the use of cash is becoming less and less common in modern societies all over the world. Every year, a higher percentage of purchases are made online, and even in stores customers are now using credit cards more often than cash. Many people today do all of their banking on the Internet rather than going to the bank in person.

   The author of the passage probably assumes that

   A. cash will become virtually obsolete in the near future
   B. using cash will become popular again
   C. paying with credit cards all the time is dangerous
   D. societies that do business online will struggle

8. Before giving first aid to an accident victim, you should obtain his or her consent. Asking for consent takes a simple question. Say to the victim, "I know first aid, and I can help until an ambulance arrives. Is that okay?"

   According to the passage, it is wrong to

   A. use first aid on an accident victim without medical training
   B. attempt to help an accident victim without permission
   C. help a victim before an ambulance arrives
   D. call for an ambulance instead of helping the victim

9. Dr. Ellen Ochoa is an inventor and is also the first female Hispanic astronaut. Her inventions include technology to help robots inspect equipment in space to maintain safety and quality control on spacecraft. Before retiring, she logged more than 1,000 hours in space across several space missions.

   According to the passage, Dr. Ochoa is the first

   A. Hispanic person to travel into space
   B. inventor to travel into space
   C. woman to travel into space
   D. Hispanic woman to travel into space

10. Dogs and cats make very different types of pets. Before deciding whether to buy or adopt a dog or a cat, prospective owners need to carefully consider their own lifestyles and personalities. Dogs may make more affectionate companions, but they require more care and attention. They must be taken out several times a day and should not be left alone for more than a few hours. Larger dogs require significant exercise to remain fit and healthy. Cats are usually more independent in nature and interact less with their owners. Also, a cat can be left on its own all day, or even for several days, as long as it has food and clean water to drink.

    From this passage a reader can conclude that

    A. owning a cat requires less work than owning a dog
    B. people who are away from home during the day should not own a cat
    C. people who like to play with their pets should own a cat
    D. owning a cat is more responsibility than owning a dog

ESL Sentence Meaning

The ESL Sentence Meaning test measures how well you understand the meaning of sentences in English. It assesses the understanding of word meanings in one- or two-sentence contexts. The sentences are drawn from the subject areas of natural science, history/social studies, arts/humanities, psychology/human relations, and practical situations. There are four content areas measured: (a) Particle, Phrasal Verbs, Prepositions of Direction; (b) Adverbs, Adjectives, Connectives Sequence; (c) Basic Nouns and Verbs; and (d) Basic and Important Idioms.

ESL Sentence Meaning Sample Questions

Directions for questions 1–8

The sentence below has a blank space. Choose the word or phrase that makes the sentence meaningful and correct.

1. Shikibu Murasaki, who wrote almost a thousand years ago, was one of the world's _____ novelists.

   A. most early
   B. too early
   C. more early
   D. earliest

2. The Chang children _____ their parents by making sandwiches for the whole family.

   A. helped out
   B. helped with
   C. helps for
   D. helps to

3. As demonstrated by his last album, which was released after his death, Ibrahim Ferrer _____ one of the most beautiful voices in Latin music.

   A. had
   B. have
   C. have had
   D. having

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4. After we saw the play, we had different opinions _____ Vincent's performance.
   A. about
   B. at
   C. for
   D. to

5. Having recorded many of the most beloved songs of the 1940s, jazz singer Ella Fitzgerald _____ one of the most prominent musical performers of her time.
   A. had been
   B. has been
   C. was
   D. will be

6. As we drove through the darkness, we saw another car coming _____ the bend in the road.
   A. through
   B. under
   C. over
   D. around

7. Sonia is so determined and stubborn that she never _____ until she gets exactly what she wants.
   A. gives up
   B. gives out
   C. gave in
   D. gave away

8. At only 43, John F. Kennedy was the _____ American president ever to be elected.
   A. most young
   B. more young
   C. youngest
   D. younger

Directions for questions 9–15

Each problem contains one or two sentences followed by a question. Choose the correct answer to the question.

9. Elena found a tomato that was much bigger than all the others in the garden.

   How did the tomato compare to the others in the garden?
   A. It was the smallest.
   B. It was not very large.
   C. It was larger than some.
   D. It was the largest.

10. When the popular entertainer canceled her appearance, the Latin American festival was postponed indefinitely.

    When will the festival likely take place?
    A. Tonight
    B. Tomorrow
    C. Next week
    D. Many weeks later

11. Jasmine is never late to meet her friends, and sometimes arrives a few minutes early.

    Which best describes Jasmine?
    A. Lonely
    B. Punctual
    C. Talkative
    D. Tardy

12. Bram Stoker is best known for his classic horror novel *Dracula*, which was published in 1897.

    What did Bram Stoker do?
    A. He was a doctor.
    B. He was a merchant.
    C. He was a writer.
    D. He was an engineer.

13. Exhausted from her transatlantic flight, Judy could not stay up past 9 p.m.

    What did Judy do at 9 p.m.?
    A. Leave work
    B. Come home from the airport
    C. Get on an airplane
    D. Go to bed

14. Eliot sleeps late whenever he can, leaves work early, and never does anything unless he absolutely has to.

    Which best describes Eliot?
    A. Boring
    B. Lazy
    C. Selfish
    D. Tired.

15. Juanita rushed to her dance class and burst through the door in the nick of time.

    When Juanita got to her dance class, she was
    A. very early
    B. very late
    C. nearly late
    D. a little late

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ESL Language Use

The ESL Language Use test measures your proficiency in using correct grammar in English sentences. There are five content areas measured on this test: (a) Nouns, Pronouns, Pronoun Case Structure; (b) Subject-Verb Agreement; (c) Comparatives, Adverbs, Adjectives; (d) Verbs; and (e) Subordination/Coordination.

ESL Language Use Sample Questions

Directions for questions 1–10

The sentence below has a blank space. Choose the word or phrase that makes a grammatically correct sentence.

1. _____ washing his sweater, Jacob hung it up to dry.
   A. After
   B. Before
   C. By
   D. Until

2. Dr. O'Hara is certain that some day, men and women will _____ to Mars.
   A. travel
   B. travels
   C. traveling
   D. traveled

3. Water _____ at a temperature of zero degrees Celsius.
   A. having frozen
   B. freezing
   C. freeze
   D. freezes

4. _____ you get a new haircut?
   A. Have
   B. Does
   C. Are
   D. Did

5. Jacques Cousteau will be remembered for his inventions and for _____ to marine science.
   A. dedication
   B. his dedication
   C. being dedicated
   D. his being dedicated

6. The children, who were tired of traveling, kept asking, "When _____ we get to the hotel?"
   A. have
   B. will
   C. did
   D. are

7. Galileo is most famous _____ that Earth revolves around the Sun, rather than the other way around.
   A. for having discovered
   B. for discovery
   C. his discovery
   D. in discovering

8. Men and women sometimes have difficulty understanding each other because they _____ differently.
   A. communicate
   B. communicated
   C. have communicated
   D. communicates

9. _____ you can speak more than one language, you have the opportunity to make more new friends.
   A. So
   B. Before
   C. When
   D. Though

10. Light _____ faster than sound, which is why you see lightning before you hear the thunder.
    A. traveling
    B. travels
    C. having traveled
    D. will travel

Directions for questions 11–15

Read the two sentences below and choose the best way of combining them.

11. Lisa plays the piano. Her sister Kelly plays the piano, too.
    A. Lisa and her sister Kelly plays the piano.
    B. Both Lisa and her sister Kelly play the piano.
    C. Lisa plays the piano and Kelly plays the piano.
    D. Lisa and Kelly too play the piano.

12. Kazuko took her dog for a walk. They went to the park.
    A. Kazuko, going to the park, took her dog for a walk.
    B. Kazuko took her dog for a walk to the park.
    C. Kazuko took her dog for a walk because they went to the park.
    D. Kazuko and her dog went to the park, where she and the dog walked.

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13. We knew it might get chilly at the football game. We brought along some extra blankets.
    A. We knew it might get chilly at the football game when we brought along some extra blankets.
    B. Bringing along some extra blankets, we knew it might get chilly at the football game.
    C. We brought along some extra blankets because we knew it might get chilly at the football game.
    D. It got chilly at the football game and we brought along some extra blankets.

14. Juan loves to play baseball. His friend Miguel enjoys baseball, too.
    A. Both Juan and his friend Miguel enjoy playing baseball.
    B. Juan and his friend Miguel enjoys playing baseball.
    C. Juan enjoys playing baseball and his friend Miguel, too.
    D. Juan loves baseball and Miguel too enjoys baseball.

15. Wolves are pack animals. They are rarely spotted alone.
    A. Wolves are rarely spotted alone if they are pack animals.
    B. Being pack animals, wolves are rarely spotted alone.
    C. After being pack animals, wolves are rarely spotted alone.
    D. Wolves are rarely spotted alone, although they are pack animals.

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Answer Key

SENTENCE SKILLS	
QUESTION NUMBER	CORRECT ANSWER
1	D
2	A
3	B
4	C
5	B
6	B
7	C
8	D
9	A
10	B
11	D
12	C
13	A
14	B
15	A
16	D
17	B
18	D
19	B
20	C
21	B
22	C

READING COMPREHENSION	
QUESTION NUMBER	CORRECT ANSWER
1	C
2	D
3	D
4	C
5	C
6	C
7	B
8	C
9	C
10	B
11	A
12	D
13	D
14	A
15	A
16	C
17	B
18	A

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Answer Key

ARITHMETIC	
QUESTION NUMBER	CORRECT ANSWER
1	B
2	A
3	B
4	C
5	D
6	A
7	B
8	B
9	C
10	B
11	C
12	C
13	D
14	B
15	C
16	B
17	B
18	B
19	C
20	D

ELEMENTARY ALGEBRA	
QUESTION NUMBER	CORRECT ANSWER
1	D
2	B
3	A
4	D
5	D
6	B
7	A
8	B
9	D
10	A
11	B
12	C
13	B
14	C
15	C
16	A
17	A
18	C
19	A
20	D

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Answer Key

COLLEGE-LEVEL MATHEMATICS	
QUESTION NUMBER	CORRECT ANSWER
1	C
2	E
3	E
4	C
5	A
6	E
7	C
8	B
9	A
10	D
11	B
12	E
13	E
14	C
15	A
16	E
17	E
18	E
19	D
20	E

ESL READING SKILLS	
QUESTION NUMBER	CORRECT ANSWER
1	C
2	D
3	A
4	A
5	D
6	C
7	A
8	B
9	D
10	A

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Answer Key

ESL SENTENCE MEANING	
QUESTION NUMBER	CORRECT ANSWER
1	D
2	A
3	A
4	A
5	C
6	D
7	A
8	C
9	D
10	D
11	B
12	C
13	D
14	B
15	C

ESL LANGUAGE USE	
QUESTION NUMBER	CORRECT ANSWER
1	A
2	A
3	D
4	D
5	B
6	B
7	A
8	A
9	C
10	B
11	B
12	B
13	C
14	A
15	B

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