SAMPLE QUESTIONS:
ADVANCED MATH AND ENGLISH LANGUAGE SKILLS ASSESSMENT
(AMSA+ELSA)

The Advanced Math and English Language Skills Assessment (AMSA+ELSA) consists of three separate placement tests:
- The Accuplacer College-Level Math placement test
- The Accuplacer Reading Comprehension placement test
- The Accuplacer Sentence Skills placement test

Some students may also be asked to complete the following tests to measure their problem-solving skills in math:
- The Accuplacer Arithmetic placement test
- The Accuplacer Elementary Algebra placement test.

About calculators:
During the actual assessment, you will not be permitted to use hand-held calculators to complete the Arithmetic test. During the assessment, a pop-up calculator is made available by Accuplacer for some questions. Scrap paper will be available for to complete the calculations necessary to complete the remaining questions.

Exceptions will be made only if noted in an assessment accommodation document prepared for you by the Algonquin College Centre for Students with Disabilities.

ACCUPLACER COLLEGE-LEVEL MATHEMATICS TEST

The College-Level Mathematics test measures how well you solve problems that involve college-level mathematics concepts. There are 20 questions, which measure content in six areas:

(a) **Algebraic Operations**

The simplification of rational algebraic expressions, factoring and expanding polynomials, and manipulating roots and exponents.

(b) **Solutions of Equations and Inequalities**

The solution of linear and quadratic equations and inequalities, systems of equations, and other algebraic equations.

(c) **Coordinate Geometry**

Questions involving plane geometry, the coordinate plane, straight lines, conics, sets of points in the plane, and graphs of algebraic functions.

(d) **Applications and other Algebra Topics**

Complex numbers, series and sequences, determinants, permutations and combinations, factorials, and word problems.

(e) **Functions**

Questions involving polynomial, algebraic, exponential, and logarithmic functions.

f) **Trigonometry**

Including trigonometric functions.

SAMPLE QUESTIONS

1. $2^{5/2} - 2^{3/2}$
    - A. $2^{1/2}$
    - B. 2
    - C. $2^{3/2}$
    - D. $2^{5/3}$
    - E. 2^2

2. If $a \neq b$ and $1/x + 1/a = 1/b$, then $x =$
    - A. $1/b - 1a$
    - B. $b - a$
    - C. $1/ab$
    - D. $a - b / ab$
    - E. $ab / a - b$

3. If $3x^2 - 2x + 7 = 0$, then $(x - 1/3)^2 =$
    - A. $20/9$
    - B. $7/9$
    - C. $- 7/9$
    - D. $- 8/9$
    - E. $- 20/9$

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. $y/2 = x - 1$

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 $\log_{10} x = 3$, then $x =$
    - A. 3^{10}
    - B. 1,000
    - C. 30
    - D. 10/3

E.   3/10

8.   If $f(x) = 2x + 1$ and $g(x) = x - 1 / 2$, then $f(g(x)) =$
     A. x
     B. $x - 1 / 4x + 2$
     C. $4x + 2 / x - 1$
     D. $5x + 1 / 2$
     E. $(2x + 1)(x - 1) / 2$

9.   If θ is an acute angle and sin θ = 1/2, then cos θ =
     A.   -1
     B.   0
     C.   1/2
     D.   √3/2
     E.   2

C COLLEGE-LEVEL MATH ANSWER KEY
1.
2. E
3. E
4. C
5. A
6. E
7. B
8. A
9. D

ACCUPLACER READING COMPREHENSION TEST
The 20 questions in this test are of two main types:

1. ***Read a Passage:*** You will receive a written passage followed by a question based on the passage. Both short and long passages are provided. You may be asked to classify the reading passage according to the kind of information processing required—for example, explicit statements related to the main idea, those related to a secondary idea, their application, and inference.
2. ***Sentence relationships:*** You will receive two sentences followed by a question about the relationship between them. For example, you may be asked if the statement in the second sentence supports the statement in the first, if it contradicts it, or if it repeats the same information.

SAMPLE QUESTIONS

Directions for Questions 1 to 6: 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 DeQuincey, "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 main idea of the paragraph maintains 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.

2. Unemployment was the overriding fact of life when Franklin D. Roosevelt became president of the United States on March 4, 1933. An anomaly of the time was that 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. unemployment in the 1930s.
   B. the effect of unemployment on United States families.

C. President Franklin D. Roosevelt's presidency.

D. President Roosevelt's FERA program.

3. It is said that a smile is universally understood. And nothing triggers a smile more universally than a taste of sugar. Nearly everyone loves sugar. Infant studies indicate that humans are born with an innate love of sweets. Based on statistics, a lot of people in Great Britain must be smiling because on average, every man, woman, and child in that country consumes 95 pounds of sugar each year.

From this passage it seems safe to conclude that the English

A. do not know that too much sugar is unhealthy.

B. eat desserts at every meal.

C. are fonder of sweets than most people.

D. have more cavities than any other people.

4. 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.

5. In 1848, Charles Burton of New York City made the first baby carriage, but people strongly objected to the vehicles because they said the carriage operators hit too many pedestrians. Still convinced that he had a good idea, Burton opened a factory in England. He obtained orders for the baby carriages from Queen Isabella II of Spain, Queen Victoria of England, and the Pasha of Egypt. The United States had to wait another 10 years before it got a carriage factory, and only 75 carriages were sold in the first year.

Even after the success of baby carriages in England,

A. Charles Burton was a poor man.

B. Americans were still reluctant to buy baby carriages.

C. Americans purchased thousands of baby carriages.

D. the United States bought more carriages than any other country.

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

The purpose of the passage is to present

A. a personal observation.

B. a solution to a problem.

C. actual information.

D. opposing scientific theories.

Directions for questions 7–10: 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.

7. 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.

8. 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.

9. 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.

10. Serving on a jury is an important obligation of citizenship.

    Many companies allow their employees paid leaves of absence to serve on juries.
    - What does the second sentence do?
    - A. It reinforces what is stated in the first.
    - B. It explains what is stated in the first.
    - C. It expands on the first.
    - D. It draws a conclusion about what is stated in the first.

READING COMPREHENSION ANSWER KEY
1. C
2. D
3. C
4. D
5. B
6. C

7. B
8. A
9. D
10. A

ACCUPLACER SENTENCE SKILLS TEST

The 20 questions in this test are of two main types:

1. ***Sentence Correction:*** These questions require an understanding of sentence structure. You are asked to choose the most appropriate word or phrase for the underlined portion of the sentence.
2. ***Construction Shift:*** These questions ask you to rewrite a sentence according to the criteria shown, while keeping the same meaning as the original sentence.

Within these two main categories, the questions are also classified by the skills being tested. Some questions deal with the logic of a sentence. Some focus on whether the answer is a complete sentence. Others consider the relationship between coordination and subordination.

SAMPLE QUESTIONS

Directions for questions 1–5: 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

Directions for questions 6–10: 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.

6. It is easy to carry solid objects without spilling them, but the same cannot be said of liquids.
   Rewrite, beginning with <u>Unlike liquids,</u>
      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

7. Although the sandpiper is easily frightened by noise and light, it will bravely resist any force that threatens its nest.
   Rewrite, beginning with <u>The sandpiper is easily frightened by noise and light,</u>
      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

8. If he had enough strength, Todd would move the boulder.
   Rewrite, beginning with <u>Todd cannot move the boulder</u>
      The next words will be
         A. when lacking
         B. because he
         C. although there
         D. without enough

9. The band began to play, and then the real party started.
   Rewrite, beginning with <u>The real party started</u>
      The next words will be
         A. after the band began
         B. and the band began
         C. although the band began
         D. the band beginning

10. Chris heard no unusual noises when he listened in the park.
   Rewrite, beginning with <u>Listening in the park,</u>
      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

SENTENCE SKILLS ANSWER KEY

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

ACCUPLACER ARITHMETIC TEST
This test measures how well you perform basic arithmetic operations and solve problems that involve fundamental concepts of arithmetic. There are 17 questions on the Arithmetic test. They are divided into three types.
1. ***Operations with whole numbers and fractions:*** Topics in this category are addition, subtraction, multiplication, division, recognizing equivalent fractions and mixed numbers, and estimating.
2. ***Operations with decimals and percents:*** Topics covered here are addition, subtraction, multiplication, and division with decimals. Also included are percent problems, recognition of decimals, fraction and percent equivalencies, and problems involving estimation.
3. ***Applications and problem solving:*** Topics include rate, percent, and measurement problems; simple geometry problems; and distribution of a quantity into its fractional parts.

SAMPLE QUESTIONS
Solve the following problems and select your answer from the choices given.

1. 2.75 + .003 + .158 =
   A.   4.36
   B.   2.911
   C.   0.436
   D.   2.938

2. 7.86 × 4.6 =
   A. 36.156
   B. 36.216
   C. 351.56
   D. 361.56

3. 7/20 =
   A.   0.035
   B.   0.858
   C.   0.35
   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.   25N / 100
   C.   ¼ N
   D.   25 N

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 it win?

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

8. Three people who work full-time 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 one-half of his time to the project and a second person for one-third of her time, what part of the third worker's time should be budgeted to this project?

A. 13.3%
B. 35.2%
C. 16.7%
D. 18.7%

9. 32 is 40 percent of what number?

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

10. 313 – 225 =

A. 112
B. 115
C. 88
D. 1115

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

ACCUPLACER ELEMENTARY ALGEBRA TEST

The 12 questions in this test are of three main types:
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1. ***Operations with Integers and Rational Numbers:*** This includes computation with integers and negative rationals, the use of absolute values, and ordering.
2. ***Operations with Algebraic Expressions:*** This includes using evaluation of simple formulas and expressions, and adding and subtracting monomials and polynomials. These questions involve multiplying and dividing monomials and polynomials, evaluating positive rational roots and exponents, simplifying algebraic fractions, and factoring.
3. ***Translating Written Phrases into Algebraic Expressions:*** This includes solving equations, inequalities, word problems, linear equations and inequalities, quadratic equations (by factoring), and verbal problems presented in an algebraic context.

SAMPLE QUESTIONS

Solve the following problems and select your answer from the choices given.

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

3. What is the value of the expression $2x^2 + 3xy - 4y^2$ when $x = 2$ and $y = -4$?
    - A. -80
    - B. 80
    - C. -32
    - D. 32

4. $(3x - 2y)^2 =$
    - A. $9x^2 - 4y^2$
    - B. $9x^2 + 4y^2$
    - C. $9x^2 + 4y^2 - 6xy$
    - D. $9x^2 + 4y^2 - 12xy$

5. If $2x - 3(x + 4) = -5$, then $x =$
    - A. 7
    - B. -7
    - C. 17
    - D. -17

6.　　− 3(5 − 6) − 4(2 − 3) =
　　　　　A.　　- 7
　　　　　B.　　7
　　　　　C.　　- 1
　　　　　D.　　1

7.　　Which of the following expressions is equivalent to 20 − 4/5 $x \geq$ 16?
　　　　　A.　　$x \leq 5$
　　　　　B.　　$x \geq 5$
　　　　　C.　　$x \geq 32\frac{1}{2}$
　　　　　D.　　$x \leq 32\frac{1}{2}$

ELEMENTARY ALGEBRA ANSWER KEY

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