



## Students taking the Mathematics Assessment Test

### Introduction

The purpose of Assessment test is to provide you with useful information about your academic skills in math, English, and reading. The results of the assessment, in conjunction with your academic background, goals, and interests, are used by Palo Verde College's academic advisors and counselors to determine your course selection.

You cannot "pass" or "fail" the placement tests, but it is very important that you do your very best on these tests so that you will have an accurate measure of your academic skills.

### How It Works: Computer Adaptive Testing

Adaptive testing means that the questions are chosen for you on the basis of your answers to previous questions. This technique selects just the right questions for your ability level. Because the test works this way, you must answer every question when it is first given. Each test is untimed so that you can give each question as much thought as you wish. You can change your answer to a particular question before moving on to the next question, but you cannot leave a question out or come back to it later to change your answer.

If you do not know the answer to a question, try to eliminate one or more of the choices. Then pick from the remaining choices.

### Testing Time

This multiple choice test is untimed, allow yourself time to complete the test before the facility closes.

### What to Bring with You to the Test

On the day of the test, you should have completed CCCApply and received a student Identification number from Palo Verde College. Along with the student ID#, you will need to bring photo identification (driver's license, high school ID, passport & etc.) and a pencil.

## **Testing Regulations**

Palo Verde College does not allow calculators, textbooks, protractors, notebooks, dictionaries or other papers of any kind. Additionally, anyone who gives or receives help during the test, or uses notes, books, calculators or a cell phone will not be allowed to continue the test. Palo Verde College will discard your test scores if there is reason to question their validity.

## **At the End of the Test**

Once you have completed the test, a scored report will be created. A printout of this report will be provided to you. Please, retain this report and take it with you to your counselor's appointment.

## **Making an Appointment for Testing**

At present, appointments are not needed to take the assessment test. But it is recommended that you call Palo Verde College and find out when a test proctor is available. Once again, allow yourself plenty of time to complete the test before the facility closes.

## **Students with Disabilities**

If you require test accommodations due to a documented disability, please contact Disabled Students Program & Services (DSP&S) at (760) 921-5411 for arrangements concerning your needs.

## **Preparation & Sample Questions**

To ensure that test scores accurately represent your skill levels, you may wish to review basic concepts in arithmetic, trigonometry, and algebra before taking ACCUPLACER, especially if you have been away from school for more than a year.

# Arithmetic

This test measures your ability to perform basic arithmetic operations and to solve problems that involve fundamental arithmetic concepts. There are 17 questions on the Arithmetic tests, divided into three types.

- Operations with whole numbers and fractions: Topics included in this category are 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, fraction and percent equivalencies, and problems involving estimation are also given.
- 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 as scratch paper.*

1.  $2.75 + .003 + .158 =$ 
  - A. 4.36
  - B. 2.911
  - C. 0.436
  - D. 2.938
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. 0.858
  - 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.  $\frac{25N}{100}$
  - C.  $\frac{1}{4}N$
  - D.  $25 N$
6. Which of the following is closest to  $27.8 \times 9.6$ ?
- 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.  $\frac{1}{3}$
  - B.  $\frac{2}{5}$
  - C.  $\frac{1}{6}$
  - D.  $\frac{1}{8}$
9. 32 is 40 percent of what number?
- A. 12.8
  - B. 128
  - C. 80
  - D. 800
10.  $3\frac{1}{3} - 2\frac{2}{5} = ?$
- A.  $1\frac{1}{2}$
  - B.  $\frac{1}{15}$
  - C.  $\frac{14}{15}$
  - D.  $1\frac{1}{15}$

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  $3/2 \div 1/4 = n$ , 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 one-third of these books are history books and one-sixth 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  $35^\circ$  and  $45^\circ$ . What is the measure of the third angle of the triangle?
- A.  $95^\circ$
  - B.  $100^\circ$
  - C.  $105^\circ$
  - D.  $110^\circ$
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.  $\frac{1}{6}$  yd.
  - B.  $\frac{1}{3}$  yd.
  - C.  $1\frac{1}{6}$  yd.
  - D.  $2\frac{1}{3}$  yd.
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

## Elementary Algebra

A total of 12 questions of three types are administered in this test.

- The first type involves operations with integers and rational numbers, and includes computation with integers and negative rationals, the use of absolute values, and ordering.
- The second type involves operations with algebraic expressions using evaluation of simple formulas and expressions, and adding and subtracting monomials and polynomials. Questions involve multiplying and dividing monomials and polynomials, the evaluation of positive rational roots and exponents, simplifying algebraic fractions, and factoring.
- The third type of question involves translating written phrases into algebraic expressions and solving equations, inequalities, word problems, 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 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. 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. 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.  $\pi R^2$
- 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.  $9x^2 + 4y^2 - 6xy$
  - D.  $9x^2 + 4y^2 - 12xy$

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



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

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

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

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

10. Which of the following expressions is equivalent to  $20 - \frac{4}{5}x \geq 16$ ?

- A.  $x \leq 5$
- B.  $x \geq 5$
- C.  $x \geq 32\frac{1}{2}$
- D.  $x \leq 32\frac{1}{2}$

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.  $x^2 - x^2 - 5x - 25 = 0$

B.  $x^2 + 25 = 0$

C.  $x^2 + 10x - 25 = 0$

D.  $x^2 - 25 = 0$

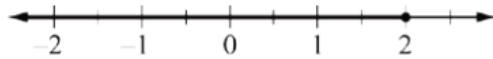
14. If  $x \neq 0$ , then  $\frac{u}{x} + \frac{5u}{x} - \frac{u}{5x} = ?$

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.  $x + 3$

C.  $x - 2$

D.  $x + 2$

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

- A.  $9x^2$
- B.  $14xx^4$
- 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.  $\frac{3}{2}$ exercises per hour

Arithmetic	
Question Number	Correct Answer
1	B
2	A
3	C
4	C
5	D
6	A
7	B
8	C
9	C
10	C
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	C
3	A
4	D
5	D
6	B
7	D
8	B
9	B
10	A
11	B
12	C
13	D
14	C
15	C
16	A
17	A
18	C
19	A
20	D

A rough estimate of your Math placement would be 5 times the number of correct answers plus 20 for the Arithmetic. If this score is higher than 64, use 5 times the number correct plus 20 on the Algebra score to find your Algebra placement.

Arithmetic		
Calculated score		Palo Verde College Math Class
0	31	MAT080
32	63	MAT082
64	120	MAT083/MAT084

Algebra		
Calculated score		Palo Verde College Math Class
0	24	Use Arithmetic Placement
25	61	MAT083/MAT084
62	100	MAT086/MAT0888
101	120	MAT110/MAT108