



## COMPUTATION AND ELEMENTARY ALGEBRA PRETEST

This placement test is designed to provide information about your skills in English and mathematics. The test results will be used, along with other information, to place you in courses appropriate for your level of preparation. In some cases, those may be non-credit, developmental courses.

This mathematics test measures your skills in reading, writing, computation and elementary algebra. Depending on your score, you may be asked questions about college-level mathematics. There is a practice packet for college-level mathematics that is separate from this one. The placement test is untimed, and usually requires between 1 ½ -3 hours, depending on whether you take the computerized or paper and pencil version of the test. Both versions are made up of multiple choice questions.

Mercer County Community College requires that all students have a completed application processed on our registration database before testing. The following students are required to test:

- Full-time and part-time freshman who have not achieved a score of 540 or higher on SAT critical reading and 530 or higher on the SAT mathematics section.
- Returning students who have not been tested for course placement in over two years.
- Non-matriculated students with twelve or more credits.
- Transfer students who have not completed their English and math requirements, unless score records for this placement test have been transferred from the previous college to the test administration office.
- ESL students who desire to study math will need partial testing (math only).

### WHERE AND WHEN THE TEST IS GIVEN

The computerized placement test is given mostly by appointment with some walk-ins at the West Windsor Campus, (WWC), and by appointment only at the James Kerney Campus (JKC). Please call 609-586-4800, extension 3295 (WWC) or extension 6695 (JKC).

Pencil and paper testing is available upon request for those who are not comfortable testing on a computer. The schedule for walk-in testing is posted on our website, [www.mccc.edu](http://www.mccc.edu).

**WHAT TO TAKE WITH YOU ON THE TEST DAY**

- 1. YOUR SOCIAL SECURITY NUMBER**
- 2. SEVERAL NO. 2 LEAD PENCILS WITH ERASERS**
- 3. A PHOTO ID**

TESTING REGULATIONS

No cell phones, food, drink, books, dictionaries, notes of any kind are allowed in the test room. Anyone who gives or receives help during the test, uses notes, books, a cell phone, or removes materials from the room will not be permitted to continue the test. A calculator is not permitted for the exam. However, the mathematics sections of the computer test may present a pop-up calculator for some of the math questions. Scrap paper will be provided. The college will invalidate any test score if there is a reason to question the integrity of the examinee.

TEST SCORES

TEST SCORES WILL BE USED FOR PLACEMENT IN COLLEGE English and mathematics or in some noncredit developmental courses if necessary. If additional testing is required for placement, this will be determined and authorized by the Advisement Office, Admissions Counselor, or department faculty or the dean.

CONFIDENTIALITY

Data about you will not be used for other than counseling and placement purposes without your permission. If the data are used for research purposes, special procedures will be used to keep your identity confidential.

THIS PACKET CONTAINS PRACTICE QUESTIONS IN COMPUTATION AND  
ELEMENTARY ALGEBRA ONLY.

COMPUTATION AND ELEMENTARY ALGEBRA PRETEST

1. Which of the following is equal to  $-2(x-5)$ ?
  - A.  $-2x+7$
  - B.  $-2x-5$
  - C.  $-2x+10$
  - D.  $-2x-10$
  
2. 16 is what percent of 80?
  - A. 12.8%
  - B. 5%
  - C. 23%
  - D. 20%
  
3. Which of the following is the smallest number? 7, 0, -10, -3
  - A. -3
  - B. 0
  - C. -10
  - D. 7
  
4. If  $x = -3$  then  $4x^2 - 3x - 10 =$ 
  - A. 35.
  - B. 143.
  - C. 17.
  - D. -55.
  
5. What is 576 divided by 47? (Round the answer to three decimal places.)
  - A. 12.463
  - B. 13.642
  - C. 11.953
  - D. 12.255

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6. If  $a = 4$  and  $b = -3$  then  $\frac{ab-4}{2b^2} =$

A.  $\frac{-4}{9}$ .

B.  $\frac{4}{9}$ .

C.  $\frac{8}{9}$ .

D.  $\frac{-8}{9}$ .

7.  $8\sqrt{5} + 3\sqrt{5} - \sqrt{5} =$

A. 11.

B.  $10\sqrt{5}$ .

C.  $11\sqrt{5}$ .

D.  $11\sqrt{10} - \sqrt{5}$ .

8. Combine into a single expression:  $\frac{3}{x} + \frac{4}{y}$ .

A.  $\frac{12}{xy}$

B.  $\frac{7}{x+y}$

C.  $\frac{3y+4x}{xy}$

D.  $\frac{3y+4x}{x+y}$

9. After dining at a restaurant John received a bill for \$42.38. He wanted to leave a 20% tip for the waiter. What should he have paid?

A. \$ 8.48

B. \$50.86

C. \$51.67

D. \$49.34

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10. Which property of real numbers is demonstrated by the following statement?

$$3+(2+5)=(2+5)+3$$

- A. The associative property of addition
- B. The commutative property of addition
- C. The distributive property
- D. The identity property of addition

11. Write 12% as a fraction in lowest terms.

- A.  $\frac{6}{50}$
- B.  $\frac{1}{8}$
- C.  $\frac{1}{5}$
- D.  $\frac{3}{25}$

12. Which of the following is true of the two numbers  $-\frac{1}{5}$  and .20?

- A. They are equal.
- B. The first is larger than the second.
- C. Their sum is 0.
- D. Their product is 1.

13. Which of the following is a factor of  $x^3 + x^2 - 6x$ ?

- A.  $x-1$
- B.  $x-6$
- C.  $x+3$
- D.  $x+2$

14. Which is the scientific notation for 3,140,000?

- A.  $3.14 \times 10^6$
- B.  $3.14 \times 10^{-6}$
- C.  $.314 \times 10^7$
- D.  $3.14 \times 10^{-6}$

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15. The perimeter of a triangle is the sum of its sides. What is the perimeter of a triangle having sides of length  $4\frac{1}{2}$  inches,  $7\frac{3}{8}$  inches and  $3\frac{1}{5}$  inches?

- A. 14.502 inches
- B. 15.075 inches
- C. 16.341 inches
- D. 15.224 inches

16. Which of the following is point on the graph of  $y = 4x - 1$ ?

- A.  $(-2, -7)$
- B.  $(-1, -5)$
- C.  $(3, 13)$
- D.  $(2, 9)$

17. Which of the following is equal to  $(x^2 - 2xy + y^2) - (2x^2 - 3xy + y^2)$ ?

- A.  $-x^2 + xy$
- B.  $3x^2 - 5xy + 2y^2$
- C.  $-x^2 - 5xy$
- D.  $-x^2 - 5xy + 2y^2$

18. Carrie has  $n$  nickels and  $d$  dimes. Which of the following represents the total amount of her money in cents?

- A.  $5n + 10d$
- B.  $15(n + d)$
- C.  $15nd$
- D.  $n + d$

19. Which of the following is the difference of two squares?

- A.  $(2a - b) - (2a + b)$
- B.  $(25x - 16y)$
- C.  $4a^2 + b^2$
- D.  $4m^2 - n^2$

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20. Factor:  $3xy + 6x^2$ .
- A.  $3x(y + 2x^2)$
  - B.  $3x(y + 2x)$
  - C.  $3xy(1 + 6x^2)$
  - D.  $3x(y + x)$
21. 75 is approximately what percent of 70?
- A. 79
  - B. 1.07
  - C. 107
  - D. 93
22. Multiply:  $(3x + 2y)^2$ .
- A.  $9x + 4y$
  - B.  $25x^2y^2$
  - C.  $9x^2 + 6xy + 4y^2$
  - D.  $9x^2 + 12xy + 4y^2$
23. Multiply:  $(5a + 4)(7a - 4)$ .
- A.  $12a$
  - B.  $35a^2 - 16$
  - C.  $35a^2 + 8a - 16$
  - D.  $35a^2 - 48a - 16$
24. In which quadrant would the graph of  $(-5, -4)$  be found?
- A. Quadrant I
  - B. Quadrant II
  - C. Quadrant III
  - D. Quadrant IV
25. Find a number that when added to  $-7$  will yield 17.
- A. 10
  - B. 24
  - C.  $-10$
  - D. None of these.

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26. Which of the following is the  $x$ -intercept of the graph of  $y = 8 - 2x$ ?

- A.  $(0, -4)$
- B.  $(4, 0)$
- C.  $(0, -8)$
- D.  $(8, 0)$

27. Simplify:  $\frac{15}{16} \div \frac{7}{4}$ .

- A.  $\frac{15}{28}$
- B.  $\frac{105}{64}$
- C.  $\frac{43}{16}$
- D.  $\frac{22}{16}$

28. Simplify:  $x^5 \cdot x^{-1} \cdot x^0$ .

- A. 1
- B.  $x^{-5}$
- C.  $x^4$
- D.  $x^6$

29. Which of the following is greatest?

- A.  $\frac{2}{3}$
- B.  $\frac{5}{12}$
- C.  $\frac{1}{2}$
- D.  $\frac{3}{8}$



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30. Bill purchased a car and made a down payment of \$560. If the down payment was  $\frac{1}{5}$  of the purchase price, what was the purchase price?

- A. \$112
- B. \$2,240
- C. \$2,800
- D. \$4,480

31. Of the following, which is closest to  $\sqrt{4,000}$  ?

- A. 40
- B. 60
- C. 200
- D. 2,000

32. If  $x = 4$  and  $y = -2$ , then  $x^2y - xy^2 =$

- A. 48.
- B. 16.
- C. -16.
- D. -48.

33. If  $2x + 3(x - 2) = 30$ , then  $x =$

- A.  $\frac{5}{36}$ .
- B.  $\frac{24}{5}$ .
- C.  $\frac{32}{5}$ .
- D.  $\frac{36}{5}$ .

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34.  $\frac{5}{a} + \frac{7}{b} =$

A.  $\frac{12}{a+b}$ .

B.  $\frac{12}{ab}$ .

C.  $\frac{5b+7a}{a+b}$ .

D.  $\frac{5b+7a}{ab}$ .

35.  $23.5 \times 3.04 =$

A. 714.4.

B. 79.9.

C. 71.44.

D. 7.99.

36.  $\frac{3}{4} - \frac{1}{2} + \frac{2}{5} =$

A.  $\frac{3}{20}$ .

B.  $\frac{4}{11}$ .

C.  $\frac{4}{7}$ .

D.  $\frac{13}{20}$ .

37. One factor of  $3a^2 - 13a - 10$  is

A.  $(3a+2)$

B.  $(3a-5)$

C.  $(a+2)$

D.  $(a+5)$

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38. 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 purchase price in cents?

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

39. Simplify:  $\frac{3[7-2(5+4)]}{8-6\div 2}$ .

- A.  $\frac{-33}{5}$
- B. 135
- C. 27
- D.  $\frac{15}{7}$

40.  $\sqrt{18} + \sqrt{8} =$

- A.  $\sqrt{26}$ .
- B.  $5\sqrt{2}$ .
- C. 10.
- D. 12.

# COMPUTATION AND ELEMENTARY ALGEBRA PRETEST

## Key to Pretest

- |       |       |
|-------|-------|
| 1. C  | 39. A |
| 2. D  | 40. B |
| 3. C  |       |
| 4. A  |       |
| 5. D  |       |
| 6. D  |       |
| 7. B  |       |
| 8. C  |       |
| 9. B  |       |
| 10. B |       |
| 11. D |       |
| 12. C |       |
| 13. C |       |
| 14. A |       |
| 15. B |       |
| 16. B |       |
| 17. A |       |
| 18. A |       |
| 19. D |       |
| 20. B |       |
| 21. C |       |
| 22. D |       |
| 23. C |       |
| 24. C |       |
| 25. B |       |
| 26. B |       |
| 27. A |       |
| 28. C |       |
| 29. A |       |
| 30. C |       |
| 31. B |       |
| 32. D |       |
| 33. D |       |
| 34. D |       |
| 35. C |       |
| 36. D |       |
| 37. A |       |
| 38. C |       |

## COMPUTATION AND ELEMENTARY ALGEBRA PRETEST

Websites for Practice:

<http://www.testprepreview.com/modules/algebra1.htm>

<http://www.testprepreview.com/modules/algebra1c.htm>

<http://www.testprepreview.com/modules/exponents.htm>

<http://www.testprepreview.com/modules/fractionsandsquareroots.htm>

<http://www.testprepreview.com/modules/basicoperations.htm>

<http://www.testprepreview.com/modules/graphs.htm>

<http://www.testprepreview.com/modules/algebra2.htm>

<http://www.testprepreview.com/modules/mathematics1.htm>

<http://www.testprepreview.com/modules/mathematics2.htm>

<http://www.testprepreview.com/modules/measurement.htm>

<http://www.algebrahelp.com/>

[http://amby.com/educate/math/2-2\\_simp.html](http://amby.com/educate/math/2-2_simp.html)

<http://amby.com/educate/math/frac-add.html>

<http://amby.com/educate/math/frac-add.html>

<http://amby.com/educate/math/frac-mul.html>

<http://amby.com/educate/math/frac-div.html>

[http://amby.com/educate/math/4-2\\_prop.html](http://amby.com/educate/math/4-2_prop.html)

<http://amby.com/educate/math/integer.html>

<http://www.khanacademy.org/>