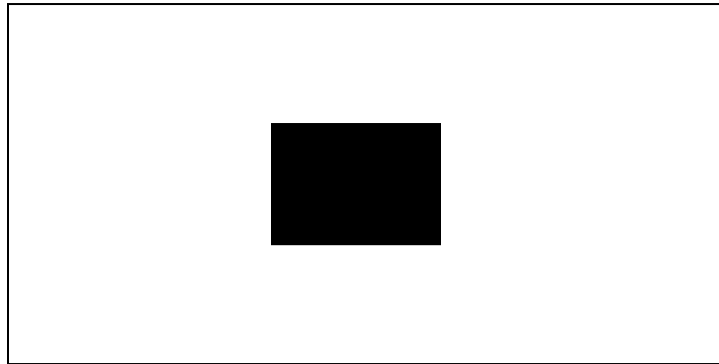


**Practice Accuplacer Math Placement Test II**  
**NO CALCULATOR ALLOWED**

**On the actual placement test, all questions are multiple choice, with five choices per question**

**Elementary Algebra Section: This section has 12 questions and you will need to get at least 6 correct to take the second part of the test. If you get at least 6/12 on this section (EA Section) you will be able to take Math 93 or Math 105. If you get 5/12 you automatically qualify for Math 90. If you get less than 5/12, the student then takes the Pre-Algebra Section (PA Section).**

1. If  $x = -3$  and  $y = -2$  what is the value  $\frac{-2y^3}{3y - 4x}$ ?
2. The total area of the rectangular floor below is  $\frac{2}{x}$ . The area of the black tile square is  $\frac{3}{2x + 5}$ . What is the area of the white tile section? ( $x \neq 0, -2.5$ )



3.  $(2x - 1)$  is a factor of which of the following?
  - a.  $6x^2 + x - 2$
  - b.  $2x^2 - 7x - 4$
  - c.  $20x^2 - 5$
4. What is the value of  $\left| -1 + 1\frac{2}{3} - 3\frac{1}{2} \right|$ ?
5. If  $-3x + 5y = 100$  and  $5 \leq x \leq 11$ , what is the least possible value for  $y$ ?
6. If the quotient  $\frac{3m^2 + 6m}{2m^2} \div \frac{9}{4m^2 - 8m}$  is simplified to lowest terms, what is the denominator of the resulting expression?

7.  $\left(x^{\frac{2}{3}}\right)^9$

8.  $\frac{36xy^2 - 42x^2y}{6xy} =$

9. What does the equation below simplify to when  $x = 2y$ ?

$$\frac{1}{3}\pi x^3 y$$

10.  $\frac{\frac{5}{2x} - \frac{1}{3y}}{\frac{2}{3x^2} - \frac{5}{2y^2}}$

11. The length of a rectangle is 5 times its width. If the diagonal of the rectangle is 26, what is the width of the rectangle?

12. Tara made  $\frac{8m}{p}$  dollars working at McDonalds and Joe made  $\frac{2m-5}{p}$  dollars. Lynn made  $\frac{3}{4}$  as much as Tara. If they pool all their money, how much money will they have?

**College Level Math section of Accuplacer Placement Test: If a student gets at least 6/12 on the EA test, they then take this test (CLM). This section has 20 questions and a student needs to get at least 7 correct to take College Algebra (Math 102), Statistics (Math 221), or Pre-calculus (Math 119). Note that this test has many questions on rational expressions. Also, since this test is used for placement into Pre-Calculus there are also 4 Trig questions.**

1.  $(\sqrt{m} - \sqrt{p})(3\sqrt{m} + 5\sqrt{p})$

2.  $\frac{-5}{5(x-2)} - \frac{10}{x-2}$

3. The fundamental period of the function  $f(t) = \sin\left(\frac{3t}{2}\right)$

4. What is the equation of the line parallel to  $-5x - 4y = 10$  and goes through the point  $(7, -2)$ .

5. Write an equation of a line in standard form that has slope of  $-3$  and goes through the point  $(1, -7)$ .

6. Graph  $f(x) = 1 + \tan(x)$ .

7. If  $x < 0$ , then  $|2x^4| - 3$  is equivalent to what expression that contains no absolute value signs?

8. In the  $xy$  plane, the point  $(3, 2)$  is on a circle centered at the origin, what is the radius of the circle?

9. If  $f(x) = 4x^2 - 1$  and  $g(x) = (x^2 + 3)$ , what is  $f(g(x))$ ?

10. Where defined,  $\frac{1}{\cot(\theta)}$  is equal to what?

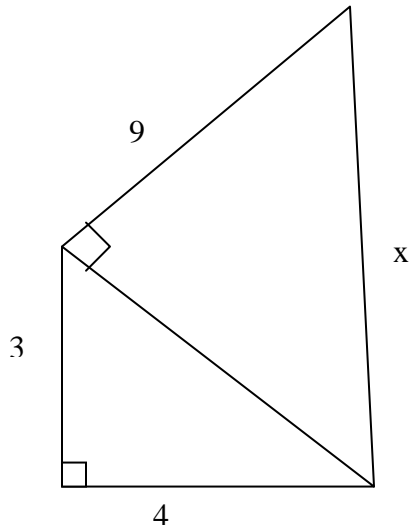
11. A line  $l$  goes through the points  $(7, -3)$  and  $(-3, -4)$ . If another line with a slope of  $-3$  is drawn through the origin, it will intersect line  $l$  at the point  $(t, p)$ . What is the value of  $t - 2p$ ?

12. If  $f(x) = \frac{2}{5x^2}$  and  $g(x) = 3x^2$ , then what does  $f(f(x))$ ?

13. What is the sum of the solutions to the equation  $|3x - 7| = 6$ ?

14. Where defined, what does  $\left(\frac{6x^2 - 23x - 4}{x^2 - 16}\right) \div \left(\frac{6x + 1}{2x^2 + 7x - 4}\right) =$

15. In the figure below, what is the value of  $x$ ?



16. The equation  $4x^2 - 8x = -3$  has two solutions  $x_1$  and  $x_2$ . If  $x_1 < x_2$ , what does  $x_2$  equal in terms of  $x_1$ ?

17. For  $x \neq 0$ ,  $(4x)^{-1}(16x + (4x)^2) =$

18. Graph the function  $f(x) = 2x^2 + 5$

19. If  $n^2 \left(\frac{-1}{2}\right)^{n-1}$  is the  $n$ th term of the sequence, then what is the fifth term of the sequence?

20. If  $f(x) = 5^{(2x-1)}$ , what is  $f\left(\frac{1}{2}\right)$ ?

**Arithmetic Section: If a student gets less than 5/12 on the EA section, they then take the Pre-Algebra section of the test. This section contains 17 questions. A student needs to get at least 13 correct to place into Math 90. Or if a student gets 5/12 on the EA section, they will place in Math 90.**

1. Dave has a piece of material 30 inches long. He needs to cut it into pieces that are  $2\frac{1}{2}$  inches long. How many pieces that are  $2\frac{1}{2}$  inches long can Dave cut?
2. Mike makes 28,000 this year. If he gets a 4% raise, what will his salary be next year?
3. Tammy can walk 4 blocks in 37 minutes. At this rate how long will it take her to walk 36 blocks?
4.  $\frac{5}{12} + \frac{5}{9} =$
5. If the average of 8 numbers is 52, what is their sum?
6.  $\frac{5}{7}$  expressed as a percent is what?
7. What is 45% of 60?
8. A train leaves at 1:52 and arrives at its destination at 3:12. How many minutes did it take the train to reach its destination?
9. What is  $\frac{5}{3}$  of 90?
10.  $500 \times 2.74 =$
11. What is  $84 \div .02$
12.  $925 - 379 =$

13.  $\frac{5}{9} - \frac{3}{15} =$

14. 7.02 is equal to what simplified fraction?

15. Tom won some money in the lottery. If he spent  $\frac{1}{3}$  of it on a boat and  $\frac{1}{6}$  of it on a car, what fraction of the lottery money does he have left?

16. What whole number is closest to  $\sqrt{38.9}$ ?

17. A bed is  $6\frac{1}{5}$  feet long. The material to make the sheet for the bed needs to be  $1\frac{1}{4}$  times as long as the bed. How long does the sheet need to be?

### Answers to Practice Placement Test 2

#### EA Section

1.  $\frac{8}{3}$       2.  $\frac{x+10}{x(2x+5)}$       3.  $(2x-1)$  is a factor of "a" and "c".      4.  $\frac{17}{6}$
5. 23      6. 3      7.  $x^6$       8.  $6y - 7x$       9.  $\frac{8}{3}\pi y^4$
10.  $\frac{xy(5y-2x)}{4y^2-15x^2}$       11.  $\sqrt{26}$       12.  $\frac{16m-5}{p}$

#### CLM section

1.  $3m + 2\sqrt{mp} - 5p$       2.  $\frac{-11}{x-2}$       3.  $\frac{4\pi}{3}$       4.  $y = \frac{-5x}{4} + \frac{43}{4}$       5.  $3x + y = -4$
6. Tan graph that goes through (0,1)      7.  $2x^4 - 3$       8.  $\sqrt{13}$
9.  $4x^4 + 24x^2 + 35$       10.  $\tan(\theta)$       11. 8.35      12.  $\frac{5x^4}{2}$       13.  $\frac{14}{3}$
14.  $2x - 1$       15.  $\sqrt{106}$       16. 2      17.  $4 + 4x$       18. Parabola that goes through (0,5)

19.  $\frac{25}{16}$       20. 1

**Arithmetic section**

1. 12    2. \$29,120    3. 5 hours and 33 minutes    4.  $\frac{35}{36}$     5. 416    6. 71.43%

7. 27    8. 1 hour and 20 minutes    9. 150    10. 1370    11. 4200    12. 546

13.  $\frac{16}{45}$     14.  $7\frac{1}{50}$     15.  $\frac{1}{2}$     16. 6    17.  $7\frac{3}{4}$  feet