

# SAMPLE MATH PLACEMENT TEST B

Math Placement Test B has been designed for students who have completed **two years of Algebra** with a grade of C or better (Note: Satisfactorily completing Integrated Mathematics II would be considered the equivalent of two years of Algebra)

Math Placement Test B **cannot** result in a placement in Math 131 (calculus) but does provide placements between Math 130 and Math 090.

The questions on this sample test are similar to the questions on Test B in format and level of difficulty. However, not all of the topics or types of questions that are on Test B are included here.

There are a total of 35 multiple-choice mathematics questions contained in Test B. The topics on TEST B include: Arithmetic of rational numbers, operations with algebraic expressions, linear equations and inequalities, factoring and algebraic functions, exponents and radicals, graphing and distance, fractional and quadratic equations and inequalities, logarithms, functions, complex numbers, absolute values, systems of equations.

1.  $\frac{x}{5y} \div \frac{2x}{3y} =$

- (A)  $\frac{3}{10}$       (B)  $\frac{2x^2}{15y^2}$       (C)  $\frac{x}{15y}$       (D)  $\frac{10}{3}$       (E)  $\frac{x+3y}{2x+5y}$

2. If  $f(x) = \frac{x+3}{5-x}$ , then  $f(a+4) =$

- (A)  $\frac{a+7}{1-a}$       (B)  $\frac{a+7}{9-a}$       (C)  $\frac{38-6a}{5-a}$       (D)  $\frac{23-3a}{5-a}$       (E)  $\frac{a+7}{5-a}$

3. Which are factors of  $x^2 - 3x + 2$

- (I)  $x+1$       (II)  $x-2$       (III)  $x-3$

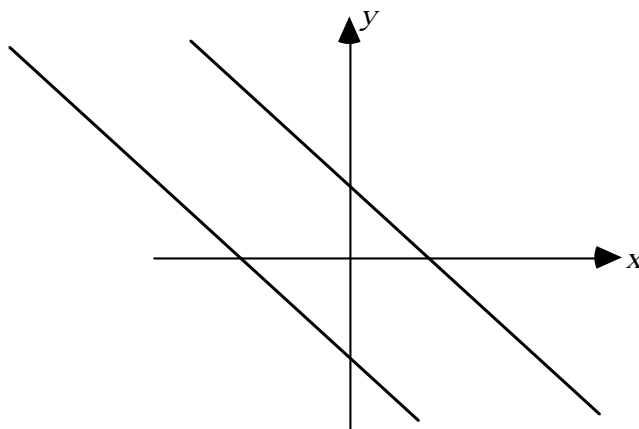
- (A) I only      (B) II only      (C) III only      (D) I and II only      (E) II and III only

4.  $(32)^{2/5} + (16)^{1/4} =$

- (A)  $(48)^{1/10}$       (B) 4      (C) 6      (D) 8      (E)  $\frac{84}{5}$

5. The two parallel lines represent the graphs of which of the following pair of equations?

- (A)  $x - 2y = 3$  and  $x - 2y = 7$   
 (B)  $x + y = 1$  and  $x + y = -2$   
 (C)  $x + y = 3$  and  $2x + 2y = 6$   
 (D)  $x + y = 3$  and  $x - y = 5$   
 (E)  $x - y = 7$  and  $x - y = 14$



6. For any  $x$ ,  $|x - 7| =$

- (A)  $x - 7$  (B)  $|7 - x|$  (C)  $|x + 7|$  (D)  $-x - 7$  (E)  $-(x + 7)$

7.  $\log_6 4 + \log_6 9 =$

- (A) 2 (B)  $\log_6 13$  (C)  $\frac{13}{6}$  (D) 78 (E)  $\log_6 \left( \frac{4}{9} \right)$

8. The  $x$ -coordinate of the solution of the system of equations  $\begin{cases} 2x + y = 3 \\ x - 2y = 4 \end{cases}$

- (A) -1 (B)  $\frac{2}{3}$  (C) 2 (D)  $\frac{7}{3}$  (E) 4

9.  $\frac{x^2 - 4}{2x} \cdot \frac{6}{3x - 6} =$

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

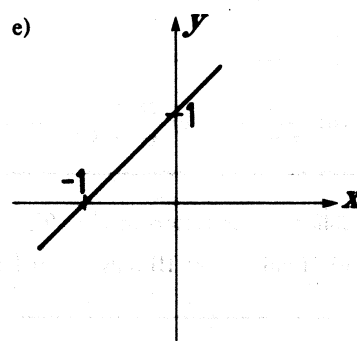
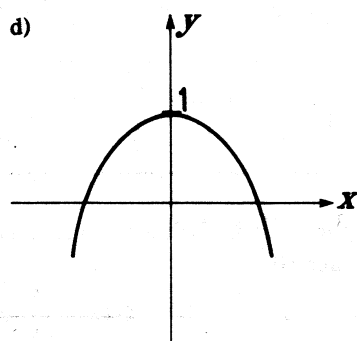
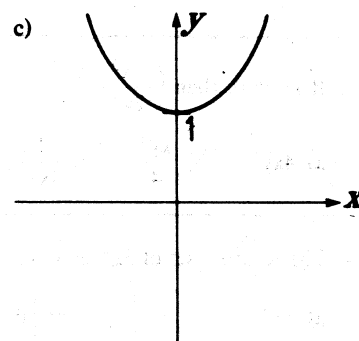
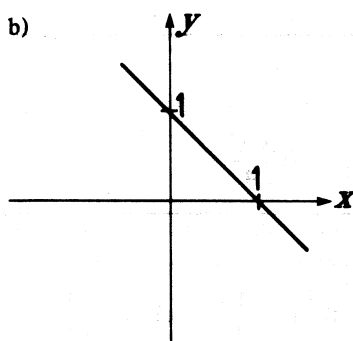
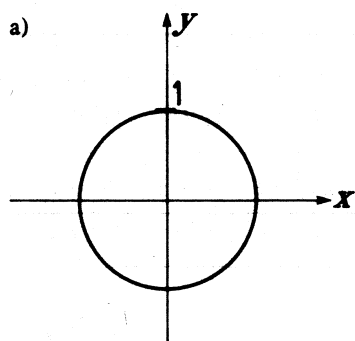
10. If  $rx - s = t(x - r)$  then  $x =$

- (A)  $\frac{s-r}{r-t}$  (B)  $\frac{s-tr}{r-t}$  (C)  $\frac{s-tr}{r+t}$  (D)  $\frac{s+tr}{r+t}$  (E)  $\frac{s-r}{r+t}$

11.  $|x - 3| < 2$  is equivalent to

- (A)  $-1 < x < 5$  (B)  $x < 5$  (C)  $x < 2$  (D)  $1 < x < 5$  (E)  $x < -1$  or  $x > 5$

12. The graph of  $y^2 = 1 - x^2$  is



13. If  $xy \neq 0$ , then  $\left(\frac{x^3}{2y^{-1}}\right)^{-2} =$

- (A)  $4xy^3$       (B)  $\frac{xy^3}{4}$       (C)  $\frac{1}{4x^6y^2}$       (D)  $\frac{4}{x^6y^2}$       (E)  $\frac{x^6y^2}{4}$

14. If  $x - 3(x - 2) = 4(x + 1) - 8$ , then  $x =$

- (A)  $-\frac{1}{3}$       (B)  $\frac{5}{6}$       (C) 1      (D)  $\frac{3}{2}$       (E)  $\frac{5}{3}$

Answers: 1(A), 2(A), 3(B), 4(C), 5(B), 6(B), 7(A), 8(C), 9(E), 10(B), 11(D), 12(A), 13(D), 14(E).