

**Math-M123/College Algebra**  
**Practice Exam 1/Fall 2009**  
**Sections 3.2, 3.3, 3.5, 3.6, 3.7, 6.6**

Name \_\_\_\_\_

No notes and no book are permitted on this exam. Partial credit will be given, but only if proper work is shown, so it is to your advantage to show your work.

1. Graph these linear equations. Find a minimum of three solutions as a part of the process.

(a)  $2x + 3y = 9$


(b)  $-7y + 4x = -14$


2. Find the intercepts. Then graph the linear equations.

(a)  $-5x + 3y = 15$

x-intercept: \_\_\_\_\_

y-intercept: \_\_\_\_\_

(b)  $9x + y = -18$

x-intercept: \_\_\_\_\_

y-intercept: \_\_\_\_\_

3. Graph these linear equations:

(a)  $6y - 24 = 0$

(b)  $5x = -15y$

4. Find the slope of the line containing each pair of points. If the slope is undefined, state this.

(a)  $(4, -7)$  and  $(-7, -1)$

(b)  $(11, -2)$  and  $(11, 9)$

5. Find the slope and the y-intercept of each line whose equation is given. Then, graph the line.

(a)  $y = -\frac{1}{3}x + 2$

Slope: \_\_\_\_\_

Y-Intercept: \_\_\_\_\_

(b)  $-2x + 5y = -15$

Slope: \_\_\_\_\_

Y-Intercept: \_\_\_\_\_

6. Write the slope-intercept equation of the line with the given slope that contains the given point.

(a)  $m = \frac{2}{3}$ ; (1, -6)

(b)  $m = -4$ ; (-3, 4)

7. Solve. If no solution exists, state this.

(a)  $\frac{3}{x} - \frac{5}{6} = 2$

(b)  $\frac{7}{2x+9} = \frac{-5}{x-2}$

8. Find the slope-intercept equation of the line that passes through these points.

(a) (-3, 8) and (4, -6)

(b) (10, 1) and (0, -7)

9. Find the slope-intercept equation of the line that passes through the point (-3, 12) and is perpendicular to the line  $5x + 7y = 0$ .