## BRONX COMMUNITY COLLEGE

of the City University of New York

## DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE

MATH 05 Nikos Apostolakis Exam 2 October 7, 2010

Name: \_\_\_\_\_

**Directions:** Write your answers in the provided space. To get full credit you *must* show all your work. Simplify your answers whenever possible. Be certain to indicate your final answer clearly. **Each problem is worth** 5 **points** 

1. Evaluate:  $7 - 5(6 - 8) - 2^4 \div 8 \cdot 2$ .

2. Evaluate  $-b^2 - 4a$  if a = -3 and b = -5

3. Let  $p(x) = x^4 + x^3 - 7x^2 - x + 6$ . Find p(-3).

4. Solve the equation: 2(x+5) = 3(x+8) - 6

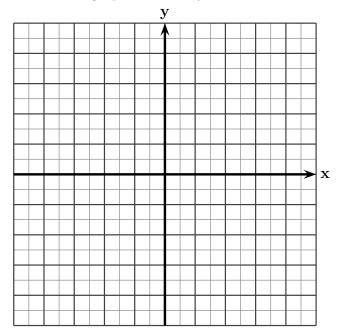
5. Solve the equation:  $\frac{5x+3}{9} - \frac{3-x}{3} = x - 1$ 

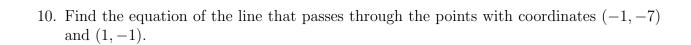
6. Solve the inequality: -5x + 2 > 11. Graph the solution set and give your answer in interval notation.

7. Solve for y: 3x - 5y = 15

8. Find the slope and the two intercepts of the line with equation -7x + 3y = -42.

9. Sketch the graph of 4x + 3y = 12. Show the x and y intercepts.





11. Find the equation of the line that is parallel to the line with equation 3x - 2y = 11 and passes through the point with coordinates (2, -5).

12. Find the point where the lines with equations y = 5x - 3 and 2x - 4y = 48 intersect.

13. Solve the following system: 
$$\begin{cases} 3x - 5y = 13 \\ 4x + 2y = -26 \end{cases}$$

14. Solve the following system: 
$$\begin{cases} 2x + 3y = -3 \\ 4x + 6y = -6 \end{cases}$$

15. Simplify: 
$$(3x^4y^3z^5)^2(-2x^3y^4z^2)^3$$

16. Simplify: 
$$(-3x^2 + 4x - 7) - (8x + 3x - 2)$$

17. Expand and simplify: 
$$(2x - 5)(3x^2 - 5x + 7)$$

18. Expand and simplify: 
$$(x-3)^3$$

19. Simplify: 
$$\frac{10a^5b^3 - 4a^3b^2 + 6a^4b^6 + 8ab^2}{2ab^2}$$

20. Simplify: 
$$\frac{(2x-3)^2 + 24x}{(2x+3)^2}$$