

BRONX COMMUNITY COLLEGE
of the City University of New York

DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE

MATH 05
Nikos Apostolakis

Practice Exam
November 1, 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: $-9 - 5(5 - 7)$.

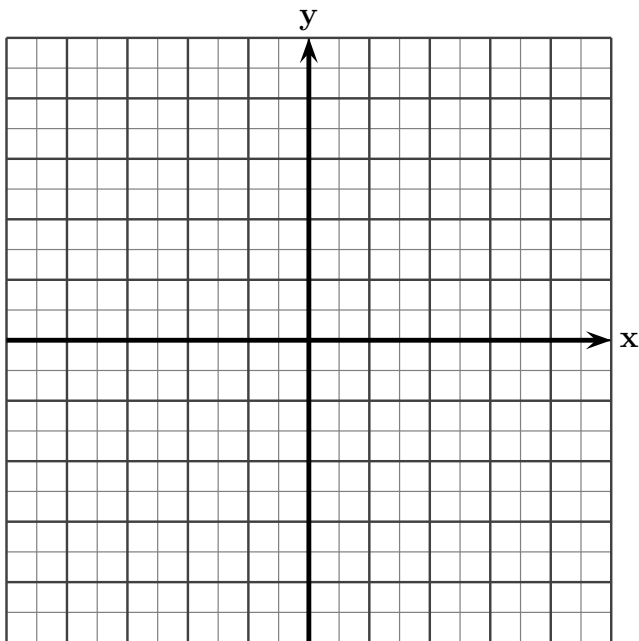
2. Evaluate: $\sqrt{x^2 + y^2}$ if $x = 12$ and $y = -13$

3. Solve: $-4(2x + 3) = 6(x - 5)$

4. Solve for x : $4x + 3y = 20$

5. Solve the system:
$$\begin{cases} 5x - y = -7 \\ 3x + 2y = -12 \end{cases}$$

6. Sketch a graph of $3x - 2y = -6$. Show the x and y intercepts.



7. Subtract: $(x^3 - 8x^2 - 5x + 6) - (2x^3 - 5x^2 - 3x + 2)$

8. Multiply: $(3x - 2)(5x^2 - x - 2)$

9. Factor completely: $20x^3 - 80x$

10. The width of a rectangle is one more than three times its length. The area of the rectangle is 80 square inches. Find the dimensions of the rectangle.

11. Find the slope and the y -intercept of the line passing through the points $(-4, 13)$ and $(-10, 25)$.

12. Find two consecutive integers whose product is 19 more than their sum.

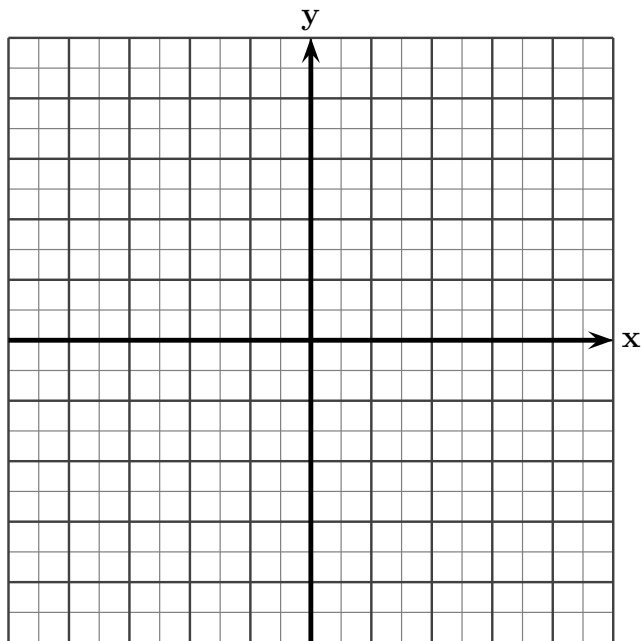
13. Divide: $\frac{6x^5 - 10x^4 + 8x^3 - 4x^2}{2x^2}$

14. Factor completely: $6x^2 + x - 2$.

15. The two legs of a right triangle measure 2 and 4 cm. Find the length of the hypotenuse.

16. Simplify: $4\sqrt{20} - 2\sqrt{300} + 3\sqrt{27}$

17. Graph the inequality: $2x + 3y \geq 6$



18. Solve: $2x^2 - 2x = 1$.

19. Solve: $5x^2 + 9x - 2 = 0$

20. Graph $y = -x^2 + 5$. Indicate the x - and y - intercepts.

