

BRONX COMMUNITY COLLEGE
of the City University of New York

DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE

MATH 05
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Practice Exam
October 27, 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: $9 - 5(8 - 6)$.

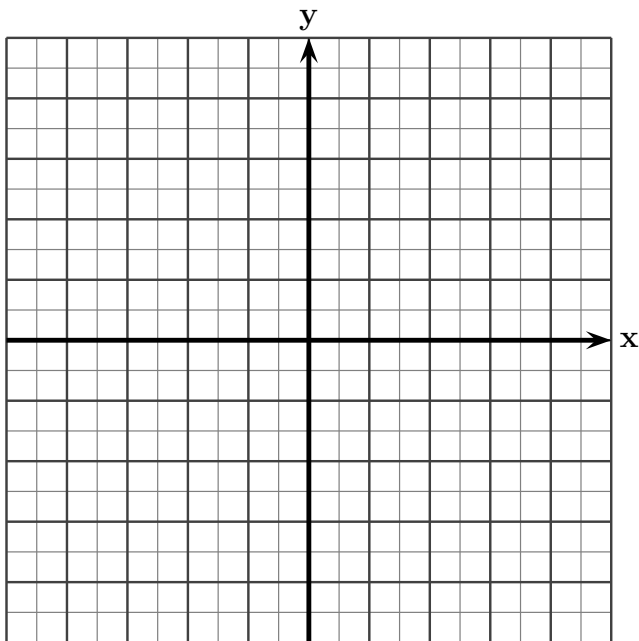
2. Evaluate: $\sqrt{4a - b^2}$ if $a = 5$ and $b = -2$

3. Solve: $5(2x + 3) = -3(4x - 1)$

4. Solve for y : $5x - 3y = 12$

5. Solve the system:
$$\begin{cases} 2x - 3y = 1 \\ 4x + 2y = 26 \end{cases}$$

6. Sketch a graph of $4x - 3y = 12$. Show the x and y intercepts.



7. Subtract: $(7x^2 - 3x + 8) - (4x^2 - 5x + 3)$

8. Multiply: $(2x - 5)(3x^2 - 4x - 2)$

9. Factor completely: $-4x^3 + 36x$

10. The length of a rectangle is three times its width. The area is 60 square inches. Find the dimensions of the rectangle.

11. Find the slope and the y -intercept of the line passing through the points $(3, 8)$ and $(9, -16)$.

12. Find two consecutive integers whose product is eleven more than three times their sum.

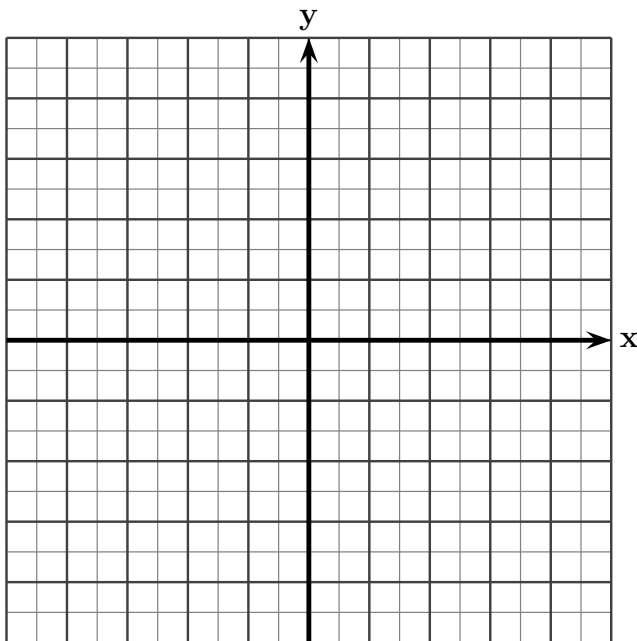
13. Divide: $\frac{25x^5 - 10x^4 + 40x^3 - 5x^2}{5x^2}$

14. Factor completely: $6x^2 - x - 12$.

15. The hypotenuse of a right triangle is 9 centimeters and one of its legs is 6 centimeters. Find the length of the third side.

16. Simplify: $4\sqrt{45} - 2\sqrt{500} + 3\sqrt{32}$

17. Graph the inequality: $-2x + 3y < 6$



18. Solve: $x^2 - 6x = -4$.

19. Solve: $20x^2 + 11x - 3 = 0$

20. Graph $y = -x^2 + 2x$. Indicate the vertex, the axis of symmetry and the x - and y -intercepts.

