

BRONX COMMUNITY COLLEGE
of the City University of New York

DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE

MATH 05
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Third Exam
October 28, 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: $4 - 3(2 - 3)$.

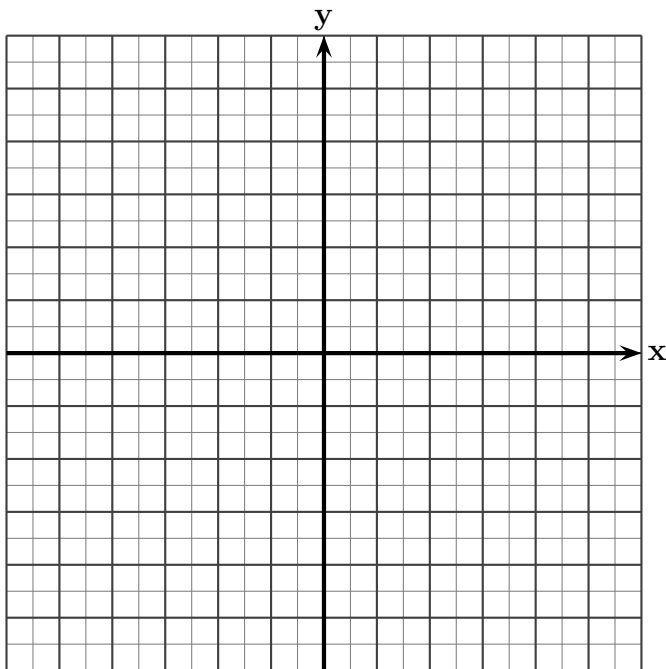
2. Evaluate: $\sqrt{2a^2 - b^2}$ if $a = 4$ and $b = -3$

3. Solve: $3(4x - 3) = -5(6x - 1)$

4. Solve for y : $10x - 7y = -21$

5. Solve the system:
$$\begin{cases} 5x + 2y = 19 \\ 4x - y = 36 \end{cases}$$

6. Sketch a graph of $5x - 2y = 10$. Show the x and y intercepts.



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

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

9. Factor completely: $-7x^3 + 63x$

10. The length of a rectangle is 2 times its width. The area is 72 square inches. Find the dimensions of the rectangle.

11. Find the slope and the y -intercept of the line passing through the points $(-2, 6)$ and $(4, 10)$.

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

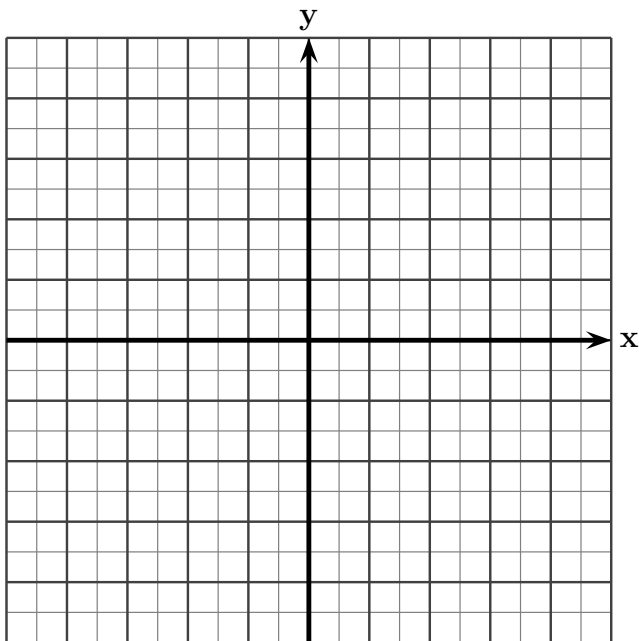
13. Divide: $\frac{-6x^5 + 9x^4 + 33x^3 - 12x^2}{-3x}$

14. Factor completely: $5x^2 + 23x - 10$.

15. The hypotenuse of a right triangle is 7 centimeters and one of its legs is 3 centimeters. Find the length of the third side.

16. Simplify: $4\sqrt{28} - 3\sqrt{400} + 7\sqrt{63}$

17. Graph the inequality: $-4x + 3y < 12$



18. Solve: $x^2 - 8x + 8 = 0$.

19. Solve: $6x^2 - x = 1$

20. Graph $y = x^2 - 4x$. Indicate the vertex, the axis of symmetry and the x - and y -intercepts.

