

BRONX COMMUNITY COLLEGE
of the City University of New York

DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE

MATH 05
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Exam 1
September 23, 2010

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: $5 - 3(4 - 3) - 2^3 \div 8 \cdot 4.$

2. Evaluate: $\frac{-16}{9} \cdot \frac{18}{-25} \cdot \left(-\frac{10}{6}\right) \cdot \frac{-5}{4} \cdot \frac{3}{4}.$

3. Evaluate, if $a = -\frac{2}{5}$ and $b = \frac{7}{10}$: $-3a + 11b$

4. Evaluate if $c = -2$ and $d = -3$: $c^2 - d^2.$

5. Solve the equation:

$$-2(3x - 1) + 3 = 5(x + 2) - 11x + 8$$

6. Solve the equation:

$$\frac{x - 2}{5} + \frac{8 - x}{3} = x$$

7. Solve the equation:

$$2(3x - 1) + 2x + 5 = 5x - 2(x - 3) + 12$$

8. Solve for m : $\frac{2am}{b} - 2 = 7a + 4$

9. Solve the following inequality, give the answer using interval notation and graph the solution set.

$$9 - 2(2x + 3) \geq -7x - 3$$

10. The width of a rectangle is 2 inches more than 3 times its length. If the perimeter of the rectangle is 84 inches find its dimensions.

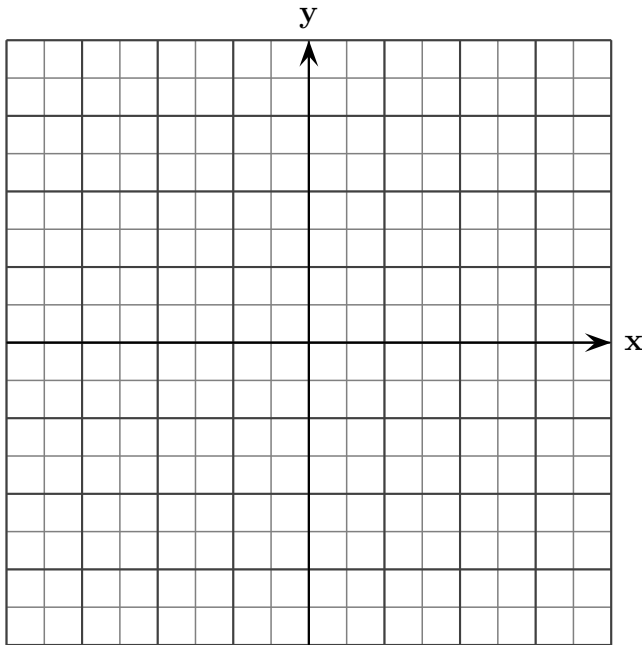
11. The sum of three consecutive integers is 24. Find the three integers.

12. The coordinates of a solution to the following equation:

$$5x - 3y = 25$$

are consecutive integers. What's the solution?

13. Graph the line with equation $2x - 3y = -6$ in the following grid.



14. Find the slope and the x - and y -intercepts of the line with equation $3x - 4y = 12$.

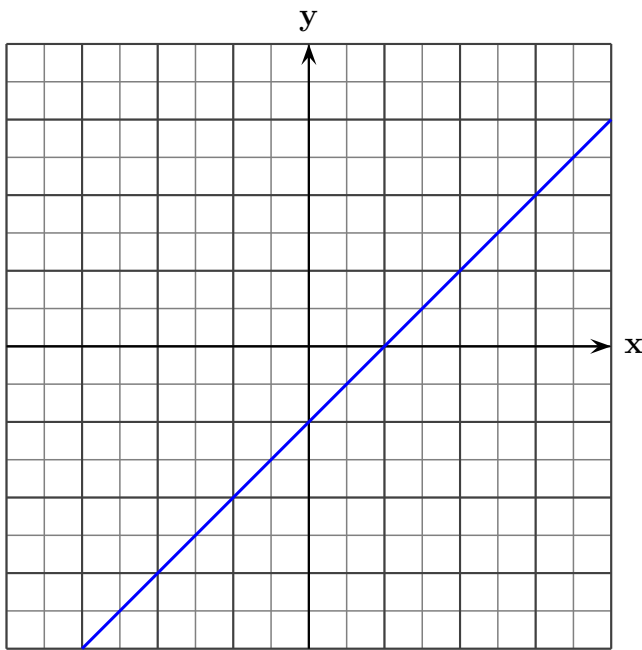
15. A line has slope -2 and passes through the point $(-1, -3)$. Find its equation.

16. A line passes through the points with coordinates $(-2, 18)$ and $(3, 3)$. Find an equation for this line.

17. A line is parallel to the line with equation $4x - 2y = 3$ and contains the point with coordinates $(-3, 4)$. Find the equation of this line.

18. A line passes through the point $(3, 4)$ and is parallel to the line with equation $x = -4$. Find its equation.

19. Find an equation for the line whose graph is shown below:



20. Do the lines with equations $y = 3x - 4$ and $y = 4x - 3$ intersect? Justify your answer.