

BRONX COMMUNITY COLLEGE
of the City University of New York

DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE

MATH 05
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Exam 2
April 19, 2013

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. Evaluate: $\sqrt{c^2 - a^2}$, when $c = -10$ and $a = 6$.

3. Let $f(x) = x^2 - 5x + 4$. Find $f(-3)$.

4. Translate into algebra and solve:

10 is 10 more than 5 times a number.

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

6. Solve for x : $3y = 5x + 4z$

7. Evaluate. Give the answer in Scientific Notation.

$$(7.3 \times 10^{-3}) \times (5.0 \times 10^7)$$

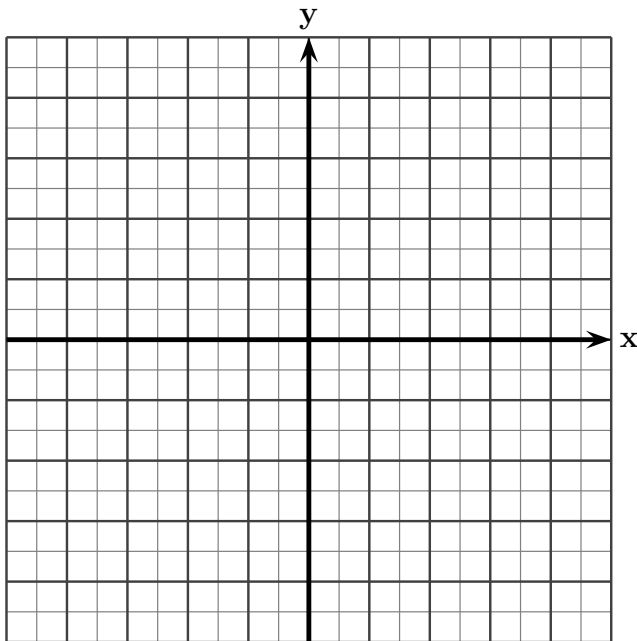
8. Evaluate. Give the answer in Scientific Notation.

$$\frac{2.3 \times 10^5}{5.0 \times 10^{-9}}$$

9. Find the point of intersection of the lines with equations $y = 3x - 1$ and $5x - 2y = 3$.

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

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



12. Solve the following system:
$$\begin{cases} 3x - 5y = -1 \\ 4x + 2y = 16 \end{cases}$$

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

14. Simplify. Give your answer using positive exponents only. $(4x^{-4}y^3z^5)^2(-2x^{-2}y^4z^{-2})^{-3}$

15. Simplify. Give your answer using positive exponents only.

$$\frac{x^2(y^2w^{-2})^2}{x^{-3}y^3w^{-6}}$$

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

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

18. Expand and simplify: $(a + 2)^3$

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

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