BRONX COMMUNITY COLLEGE
of the City University of New York

DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE

MATH 05 — Practice Final
Nikos Apostolakis — December 9, 2008

Print Name: _____

Justify your answers. **No credit will be given for unjustified answers.**

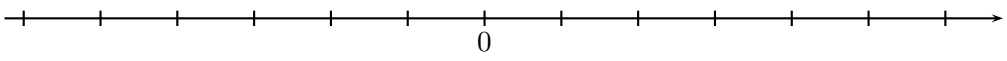
1. Evaluate: $2 - 5 \cdot (2 - 3) - 4 \cdot 3^2 \div 9 \cdot 2$.

2. Let $f(x) = 3x^3 - 4x^2 - 2x + 5$. Find both $f(0)$ and $f(-2)$.

3. Solve for x: $-3(2x - 1) + 7 = 4(2x - 3) - 4x + 2$.

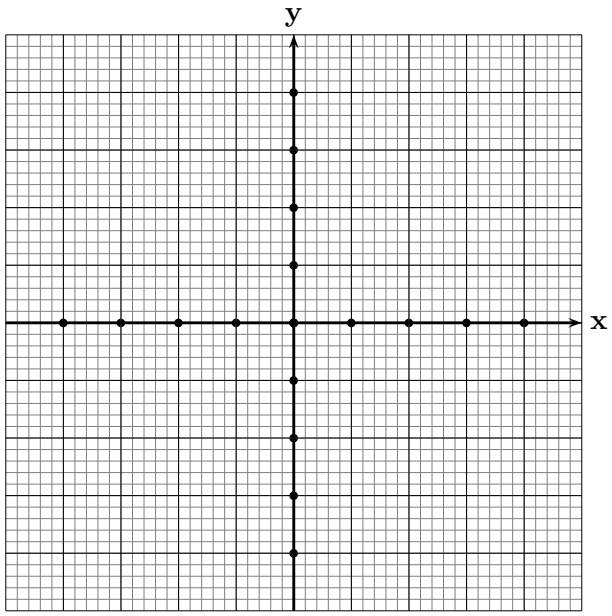
4. Find the slope of the line with equation: $8x - 3y - 16 = 0$.

5. Solve $-2x + 5 \geq 3$. Graph the solution set *and* represent it in interval notation.



6. Solve for x: $|3x - 4| = 5$.

7. Sketch the graph of $3x - 4y = 12$. Find the x and y–intercepts.



8. Find the equation of the line that passes through the points $(1, -3)$ and $(-1, -5)$.

9. Solve for x and y: $\begin{cases} 2x - 3y &= 18 \\ 4x + 2y &= 4 \end{cases}$

10. Multiply and simplify: $(2x-3)(4x^2-12x+9)$.

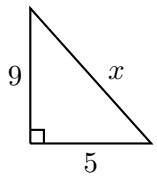
11. Simplify: $\left(\dfrac{2x^3y^4}{z^3w^5}\right)^4 \dfrac{w^3y^3z^2}{x^2z^3}$

12. Simplify: $\dfrac{9x^5-3x^4-27x^3-6x^2}{3x^2}$.

13. Divide $2x^3-5x^2-28x+15$ by $2x-1$.

14. Factor completely: $x^3 + 2x^2 - 9x - 18$.

15. Find the length x and simplify your answer.



16. At 3 pm two buses leave a town heading in the same direction. One bus travels 70 mph and the other 60 mph, what time is it when they are 50 miles apart?

17. Solve for x: $6x^2 + 7x - 20 = 0$.

18. If 30 pounds of coffee cost \$90 how much do 11 pounds cost?

19. Factor completely: $x^2y^3z - x^3y^3 - z^2 + xz$.

20. Simplify: $\sqrt{48x^{17}y^{20}}$.