

BRONX COMMUNITY COLLEGE
of the City University of New York

DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE

MATH 03
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Exam 2
April 24, 2006

Name: _____

Secret Name: _____

Directions: You *must* show all your work in the provided space. Simplify your answers whenever possible. Be certain to indicate your final answer clearly.

1. Multiply: $(x - 4)(x + 6)$.

Answer. $x^2 + 2x - 24$.

□

2. Multiply: $(3x - 5y)(x - 2y)$.

Answer. $3x^2 + 10y^2 - 11xy$.

□

3. Multiply: $(x + 1)(x^2 - x + 1)$

Answer. $x^3 + 1$

□

4. Multiply: $(x + 5)(x - 5)$

Answer. $x^2 - 25$

□

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

Answer. $2x^4 + x^3 - 3x + \frac{1}{3} - \frac{4}{x}$.

□

6. Divide $\frac{-8x^6y^9}{24x^5y^4}$.

Answer. $-\frac{xy^5}{3}$.

□

7. Factor by grouping: $4xy - 10x + 6y - 15$.

Answer. $(2x + 3)(2y - 5)$.

□

8. Factor completely: $25x^2 - 16$.

Answer. $(5x + 4)(5x - 4)$.

□

9. Factor completely $x^2 + 3x - 10$.

Answer. $(x + 5)(x - 2)$.

□

10. Factor completely: $z^2 - 10z + 24$

Answer. $(z - 4)(z - 6)$

□

11. Factor completely: $x^3 + 3x^2 - 9x - 27$.

Answer. $(x - 3)(x + 3)^2$.

□

12. Solve and check: $4x - 7 = 13$.

Answer. $x = 5$.

□

13. Solve and check: $4x + 5 = 6x - 1$.

Answer. $x = 3$.

□

14. Solve and check: $4x - 3(x + 2) = 2(5 - x) - 13$.

Answer. $x = 1$.

□