Introductory Algebra
Test 2

Name: _____
Date: _____

Directions: Answer each of the following questions to the best of your ability. Show all work necessary to complete it. Place your answers in the blanks to the right.

Solve the systems of equations: 1 by graphing, 1 by substitution, 1 by elimination, and 1 by your choice. Grids for graphing on the back side.

1. $3x + y = 5$
   $2x - y = 15$

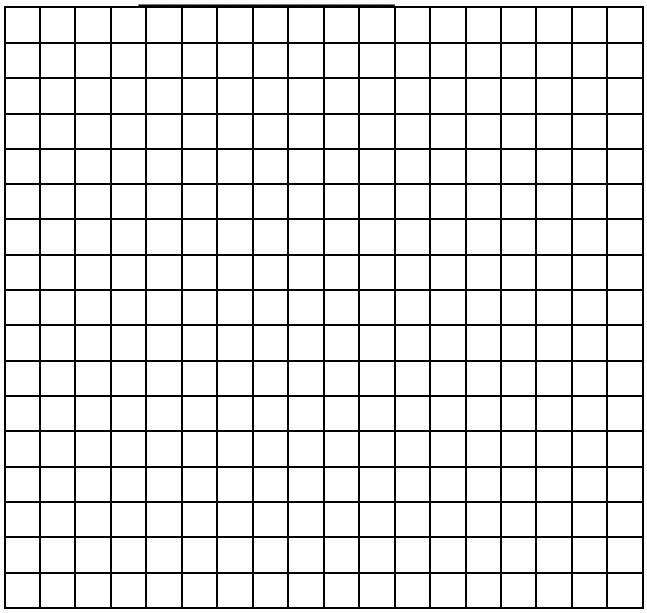
2. $2x + y = 3$
   $4x - 2y = 2$

3. $3x + 4y = 22$
   $-5x + 2y = -2$

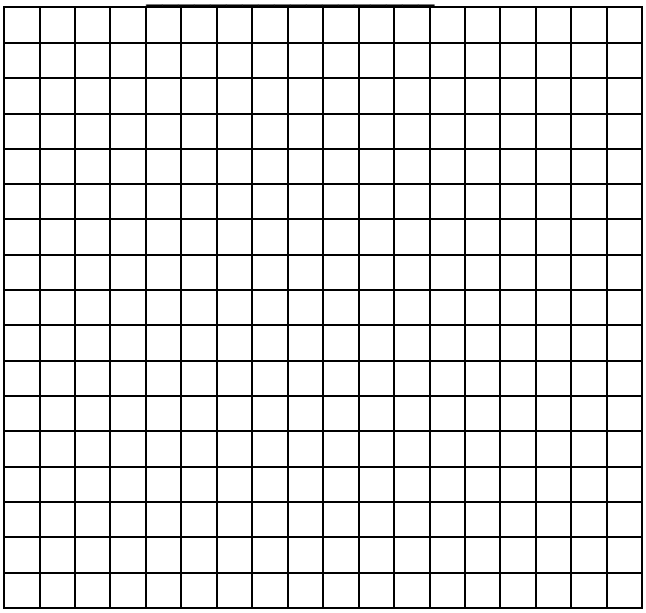
4. $-2x + y = -4$
   $3x - 2y = 7$

1. _____
2. _____
3. _____
4. _____

Problem # _____



Problem # _____



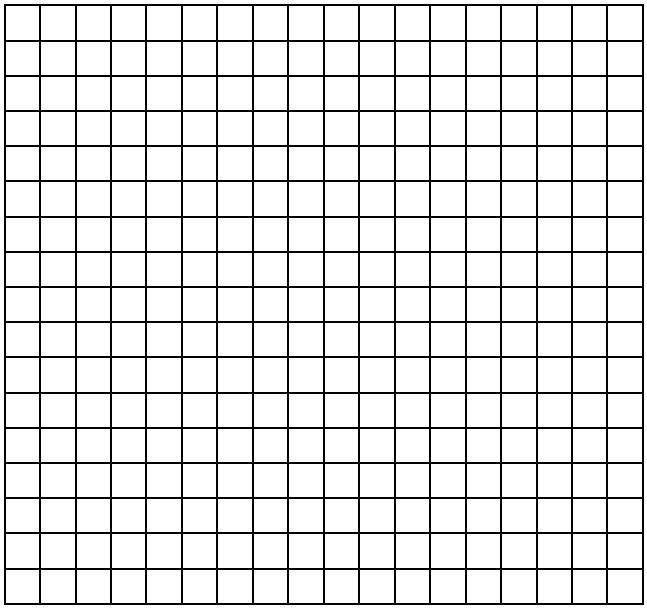
Introductory Algebra Name: _____

Solve

5. The sum of two numbers is 43. If the sum of three times the smaller number and the larger number is 75, what are the two numbers?

Graph the solution to the system of inequalities

6. $x - 2y \le 4$
   $x + y < 1$



Perform the indicated operations

7. $(4x^3 + 2x^2 - 7x) - (3x^5 + 5x + 7x^2)$
8. $(3m^2 - 9m + 1) + (5m^2 + 3m - 1) - (7m^2 - 3m - 5)$
9. $-2a^2(a^3 - 4a^2 + 3a + 1)$
10. $(m - 4)(m^2 + 2m + 3)$
11. $(x + 4)(x + 7)$
12. $(2x + 3)(2x - 3)$
13. $(3x - 5y)^2$
14. $\dfrac{-9x^5 + 3x^3 - 27x^2 + 6x}{3x}$
15. $\dfrac{6x^2 + 11x - 7}{2x - 1}$

Simplify and write only positive exponents

16. $\dfrac{(x^2)^{-3}(x^{-4}y^{-2})^{-2}}{(x^{-3}y)^2}$

17. Write the following number in scientific notation 2,570,000
18. Write the following number without exponents 3.276×10^{-3}

6. __See Graph_____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____
17. _____
18. _____