**Algebra 3-4   
1st Semester Final**

**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Block: \_\_\_\_\_\_\_\_\_  
 Print**

**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
 Signature**

**Test Sections Score**

**Chapter 1 Expressions, Equations and Inequalities \_\_\_\_\_\_  
  
Chapter 2 Functions, Equations and Graphs \_\_\_\_\_\_  
  
Chapter 3 Linear Systems \_\_\_\_\_\_  
  
Chapter 4 Quadratic Functions and Equations \_\_\_\_\_\_**

**1st Semester Final \_\_\_\_\_\_**

**Chapter 1**

Evaluate Using Order of Operations. [L2]

1.) 1.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2.) 2.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
  
  
Solve for the indicated variable. [L2]

3.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
  
  
4.) 4.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   
  
  
5.) 5.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
  
  
Solve the Expression for x. [L2]

6.) 6.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Solve the Expression for x. [L3]

7.) 7.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Solve the equation. Check for extraneous solutions. [L3]

8.) 8.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Write an Equation and Solve. [L4]

9. Beth has $500 in her savings account and makes $25 per day babysitting. 9.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
Write an equation to represent this situation.   
How many days until she will have $2000 saved?

**Chapter 2**

Identify the domain and range. Then tell whether the relation is a function.[L2]   
  
1.) {(3, 2), (-2, 5), (1, 0), (-4, 6), (1, -1)} 1. Domain: \_\_\_\_\_\_\_\_\_\_   
 Range \_\_\_\_\_\_\_\_\_\_   
   
 Function? \_\_\_\_\_\_\_\_\_   
Decided whether the given function is linear, then evaluate it for the given value of x. [L2]

2.)  2.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Write the Equation in Slope-Intercept Form. [L2]

3.) -3x+2y=7 3.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Find the slope of the line through the given points. Then write the equation for the line. [L3]

4.) (6, 8) and (4,2 ) 4.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Graph the following equations. [L3]

5.) 2y +3x = 6 5.

Choose to answer one of the following. [L4]

6.) \*Describe a real life situation that would model an event with positive correlation and write its equation.  
 -or-  
 \*Write an absolute value equation with a vertex in the 3rd quadrant that reflects about the x-axis.

**Chapter 3**

Solve the following systems using any method. [L2]

1.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Solve the System. [L3]

3.) 3.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Solve the following system. [L4]

4.) A pizza shop makes $1.50 on each small pizza   
and $2.15 on each large pizza. On a typical Friday,   
it sells between 70 and 90 small pizzas and between   
100 and 140 large pizzas. The shop can make no more   
than 210 pizzas each day.   
How many of each size must be sold to maximize profit? 4.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
  
**Chapter 4**

Write the following in Standard Form. [L2]

1.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
  
  
 2.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Graph. [L2] Graph. [L3]





Factor the expression completely. [L2]

5.) 2m2 + 24m + 40 5.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Solve the Equations Using Any Method. [L3]

6.) x2 – 8x = -15 6.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Solve the following. [L4]  
7.) Campers at an aerospace camp launch rockets while attending the camp. 7.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
The path of the rocket is modeled by the equation   
where t is the time in seconds and h is the distance from the ground (height).   
Find the maximum height of the rocket.   
After how many seconds does it reach this height?

**Chapter 5**Describe the Polynomial

Degree: \_\_\_\_\_ **[L2]**  
Leading Coefficient: \_\_\_\_\_ **[L2]**  
Total Number of Solutions: \_\_\_\_\_ **[L2]**  
Y-Intercept: \_\_\_\_\_ **[L2]**  
List of Possible Rational Solutions: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **[L2]**  
Right End Behavior: \_\_\_\_\_\_\_\_ **[L2]**  
Left End Behavior: \_\_\_\_\_\_\_\_ **[L2]**Find all zeros (Show your work). \_\_\_\_\_\_\_\_\_\_ **[L3]**

Write in standard form a polynomial function with leading coefficient of 1 with zeros [L2]

2.) . 2.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Find the zeros of the following function. Multiplicities? [L3] 3.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   
?

Solve the following. [L4]  
4.) The volume in cubic inches of a box can be expressed as the product of three dimensions.  
*𝑉* The length is (and you know it is a factor!). Find the missing constant in Then find the other dimensions of the box. Assume that the width is greater than the height.

4.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_