**Algebra 3-4   
1st Semester Final***[Multiplier of 4]*

**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Block: \_\_\_\_\_\_\_\_\_  
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**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 Expressions, Equations and Inequalities**

Evaluate Using Order of Operations. [L2]

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

Solve for the indicated variable. [L2]

2.) 2.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
  
  
 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 $537 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 Functions, Equations and Graphs**

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.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Identify the Slope and y-intercept . [L2]

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

y-intercept = \_\_\_\_\_\_\_\_\_\_  
  
  
Write the equation for the line through the given points. [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 Linear Systems**

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 Quadratic Functions and Equations**

Factor the following. [L2]

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

Graph (Use at least 3 points). [L2] Graph (Use at least 3 points). [L2]



Factor the expression completely. [L2]

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

Solve the Equations Using Any Method. [L3]

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

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

Solve the following. [L3]  
8.) A kid throws a ball up in the air and its path is modeled:   
where t is the time in seconds and h is the distance from the ground (in feet).   
  
-Find the maximum height of the ball. 8. Max height: \_\_\_\_\_\_\_\_\_\_\_\_\_  
-How long is the ball in the air? Time in air: \_\_\_\_\_\_\_\_\_\_\_\_\_  
-From what height was the ball thrown? Initial height: \_\_\_\_\_\_\_\_\_\_\_\_

Solve the following. [L4]