Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Midterm Exam Algebra 1 Part 2

Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Blk: 1 2 4 Study Guide Mrs. Theriot

I. Write an equation in slope-intercept form of the line that passes through the points

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| 1) (4,9) ( 1, 6)  | 2) (0,7) ( 1, -1) |

II. What is the slope of a line parallel/ perpendicular to the given line?

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| 1) y = 2x – 1 Parallel:Perpendicular: | 2) y = x + 2 Parallel:Perpendicular:  | 3) 2y = 6x – 8Parallel:Perpendicular: |

III. Is the ordered pair (5,2) a solution to the following system? 3x – 2y = 11

 -x + 6y = 7

IV. Solve the system by graphing.

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| 1) y = -x + 5  y = x + 1 coord_plane_2_num.gif | 2) 2x – y = 2 coord_plane_2_num.gif x = 4  | coord_plane_2_num.gif3) 2x + y = 2 x – y = 4 |

V. Solve the system by substitution.

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| 1) x + y = 1  2x – 3y = 12 | 2) x + 2y = - 5 4x – 3y = 2 |

VI. Solve the system by using linear combinations (elimination method).

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| 1) 4x – 3y = 9  x + 3y = 6  | 2) x + y = 1 2x – 3y = 12  | 3) 6x + 5y = 10 6x – 2y = 3 |

VII. Solve the following systems of inequalities.

|  |  |
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| coord_plane_2_num.gif1) y < 3x – 1 y > x + 1 | coord_plane_2_num.gif1. y > 2x – 3

y < x - 2 |

VIII. Simplify using properties of exponents.





11)  12)  13)  14) =

15) =

IX. Use exponential growth or decay models to solve. y = C ( 1 + r) or y = C ( 1 - r)

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| 1) A principal of $450 is deposited in an account that pays 2.5% interest compounded yearly. Find the account balance after 2 years. | 2) You bought a used truck for $15,000. The value of the truck will decrease each year because of depreciation. The truck depreciates ate the rate of 8% per year. What will be the value of the truck in 5 years? |

XI. Find the sum or difference.

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| 1)  | 2)  |

XII. Multiply using the distributive property or FOIL.

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| 1) 2x  | 2) ( 2x + 3) ( x + 1) | 3) ( y – 2 ) ( y – 3 ) | 4) (3a + 2) ( 2a – 1 )  |

XIII. Factor. (Use the number game.)

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| 1)  | 2)  | 3)  | 4)  |
| 5) 2a2 – x - 3 | 6) 6y2 – 29y – 5 | 7) 8b2 + 2b – 3 | 8) 6y2 – 11y -10 |
| 9) 6x2- 9x – 15  | 10) 4n2 – 22n - 42 | 11) 24r2 – 6r – 45 | 12) 4x2 + 27x + 35 |