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 – 8  Parallel:  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.gif   1. 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 |