REVIEW FOR FALL SEMESTER

**NAME\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. Write each interval shown in the following graphs in set builder and interval notation.

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| Set builder: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Interval: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Set builder: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Interval: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

1. State the domain and range of each function in interval and set builder notation.

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| Domain: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Range: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Domain: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Range: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

1. Graph the following functions and their parent functions and describe the transformations.

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| 1. graph.gif | graph.gif |

1. Write the function given the transformations.

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| 1. The function is horizontally translated right three units and vertically stretched by a factor of . |
| 1. The function is vertically shrunk by a factor of , reflected across the axis and vertically translated down units. |

1. Write the function whose graph represents the indicated transformations.

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| 1. The function is reflected across the x-axis, horizontally translated right unit, and vertically translated down units. |
| 1. The function is vertically shrunk by a factor of , horizontally translated left units, and vertically translated up units. |
| 1. The function is vertically stretched by and shifted down units. |

1. Solve the following equations for .

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1. Solve the following absolute value equations.

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1. Solve the following absolute value inequalities.

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1. Write the equation of each line described below.

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| 1. Slope , y –intercept in slope-intercept form |
| 1. Slope , passes through in point-slope form |
| 1. Through the points and in slope-intercept form |

### Systems of Equations

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| 1. Where do the lines and intersect? | |
| 1. SOLVE: | 1. SOLVE: |
| 1. SOLVE: | |

1. Solve the following systems of inequalities.

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1. Graph the following quadratic equations and identify the given characteristics.

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| Vertex:  Axis of Symmetry:  Max or Min Value:  Domain:  Range:  Roots:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Vertex:  Axis of Symmetry:  Max or Min Value:  Domain:  Range:  Roots:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Vertex:  Axis of Symmetry:  Max or Min Value:  Domain:  Range:  Roots:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

1. Simplify the expressions and write in standard form.

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1. Simplify the following radicals.

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1. Solve the following quadratic equations using square roots.

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1. Solve the quadratic equation by factoring.

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1. Solve the quadratic equation using the quadratic formula.

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1. Solve the quadratic equation by completing the square.

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