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| April/May 2016: Function Unit |

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| --- | --- | --- | --- | --- | --- | --- |
| Sun | Mon. | Tue. | Wed./Thurs. | | Fri. | Sat. |
| **10** | **11** | **12** | **13 14** | | **15** | **16** |
|  | Solving Linear Inequalities  **Linear/Abs Value Weekly Due 4/25**  **HWK #1: Solving Linear** | Writing Equations of Lines | **QUIZ Solving Linear Equations/ Inequalities**  Writing Equations of Parallel/Perpendicular Lines  **HWK #2: Writing Equations of Lines/Graphing** | | NO SCHOOL!!!! |  |
| **17** | **18** | **19** | **20 21** | | **22** | **23** |
|  | Graphing Linear Equations and Inequalities | Systems of Linear Equations  **HWK #3 Systems of Linear Equations** | **Equations of Lines Quiz-Writing and Graphing**  Solving Absolute Values/Inequalities  **HWK #4: Absolute Value** | | **Absolute Values Solving Quiz**  Graphing Absolute Value & Inequalities  Review |  |
| **24** | **25** | **26** | **27 28** | | **29** | **30** |
|  | **QUIZ Absolute Values**  **Linear/Abs Value Weekly DUE!**  Solving Radical Functions  **Function Weekly**  **Due 5/9**  **HWK #5: Radicals-Solving and Graphing** | Graphing Radical Functions | **QUIZ Radicals**  Review of Linear, Absolute Value and Radicals; Piecewise Functions | | Function Notation  Adding/Subtracting Functions  **HWK #6: Functions-Operations, Composition, Inverse** |  |
| **1** | **2** | **3** | **4 5** | | **6** | **7** |
|  | Multiplying Functions  Composition of Functions | Composition of Functions Review | Inverse of Functions | | **QUIZ Functions**  Review for Function Unit Exam or Final Exam |  |
| **8** | **9** | **10** | **11** | **12** | **13** | **14** |
|  | **ALL HOMEWORK IS DUE!**  Quiz Retakes!  Review for Function Unit Exam or Final Exam | Seniors:  FINAL EXAM  Juniors: UNIT EXAM | Seniors: FINAL EXAM  Juniors: UNIT EXAM | Review for Junior Finals | Review for Junior Finals |  |
| **15** | **16** | **17** | **18** | **19** | **20** | **21** |
|  | Review for Junior Finals | Junior Finals Hours 2, 4, & 6 | Junior Finals;  1 & 3 | Junior Finals;  5 & 7 | No School!! Summer Vacation Begins ☺ |  |

**Algebra 3/Trig: Dieckmann Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Function Notes**

**Linear**

**Linear Inequalities:**

|  |  |
| --- | --- |
| **Inequality Symbols & What they mean** | |
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| Solve & Graph the solution set on a number line |
| https://banderson02.files.wordpress.com/2014/09/blank-number-line.png1) |
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| https://banderson02.files.wordpress.com/2014/09/blank-number-line.png2) |
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| https://banderson02.files.wordpress.com/2014/09/blank-number-line.png3) |
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| https://banderson02.files.wordpress.com/2014/09/blank-number-line.png4) |
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| Solve the Inequalities, graph the solution set, and write it in interval notation |
| 1) 2) |
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| https://banderson02.files.wordpress.com/2014/09/blank-number-line.pnghttps://banderson02.files.wordpress.com/2014/09/blank-number-line.png |
| 3) 4) |
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| https://banderson02.files.wordpress.com/2014/09/blank-number-line.pnghttps://banderson02.files.wordpress.com/2014/09/blank-number-line.png |
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**Writing Equations of Lines:**

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| **Slope-Intercept Form: Point-Slope Form:** |
|  |
| * m is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ m is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| * b is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

Write the equation of the line given the situations

1) (2, 3) and (4, 4) 2) (-4, 5) and (4, 3).

3) (6, -5) and (10, -5) 4) Slope of and passes through (5, -2)

5) Slope and passes through (2, 3)

**Write the equation of the line that is perpendicular and parallel to:**

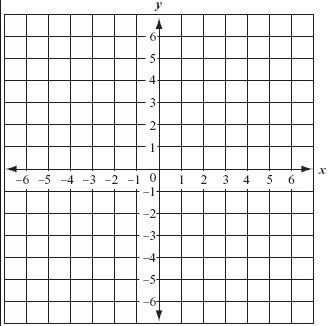
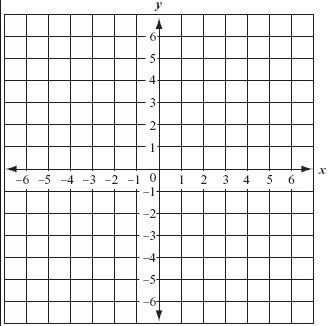
6) Slope of and passes through (-2, -1) 7) Slope of and passes through (-2, -1)

8), point (2, 7) 9), point (-2,-1)

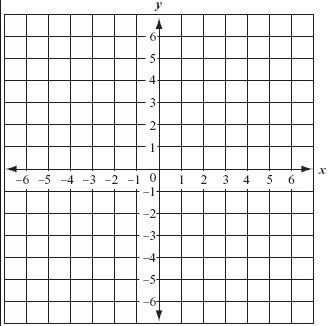
**Graphing Linear Functions and Inequalities:**

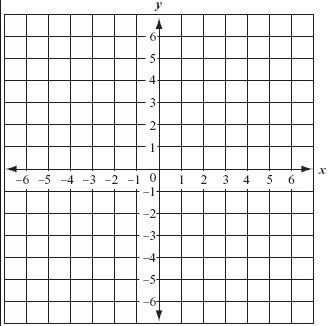
**Graph Functions in Standard Form**

**1)** Graph: -2x + y – 4 = 0. 2) 3x – y + 6 = 0



3) 4)





**Systems of Linear Equations:**

What are the two methods of solving systems?

1) 2) 3)

4) Levi has a job offer in which he will receive $800 per month plus a commission of 2% of the total price of the cars he sells. At his current job he receives $1200 per month plus a commission of 1.5% of his total sales. How much must he sell per month to make the new job a better deal?

5) A youth group went on a trip to an amusement park, travelling in two vans. In the first van, there were 2 adults and 5 children and it cost a total of $77 to enter the park. In the second van, there were 2 adults and 7 children and it cost $95. Find the adult price and the student price of admission.

**Absolute Value**

**Solving Absolute Value Equations and Inequalities:**

Evaluate the following:

1) if n = -7.5 2) if x = -2

Solve the following:

1) 2) 3)

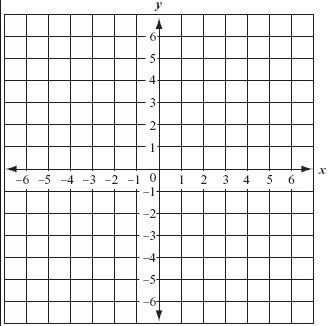
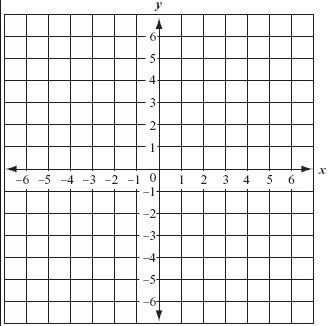
4) 5)

**Solve and graph the solutions:**

7) 8) 9)

**Graphing Absolute Value Equations:**

**1)** 2)



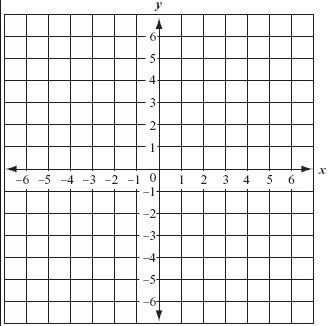
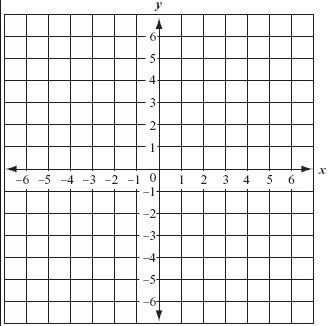
Domain: Domain:

Range: Range:

Transformations Transformations:

Vertex: Vertex:

3) 4)



Domain: Range: Domain: Range:

Transformations: Transformations:

Vertex: Vertex:

**Radical**

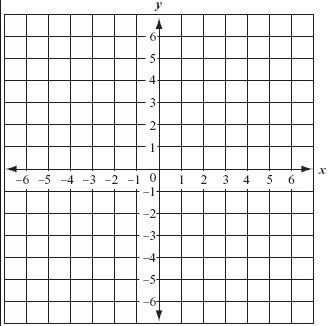
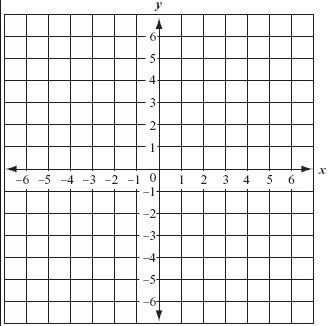
**Solving Radical Equations:**

1) 2) 3)

4)  5) ****

**Graphing Radical Functions:**

1) 2)



Domain: Domain:

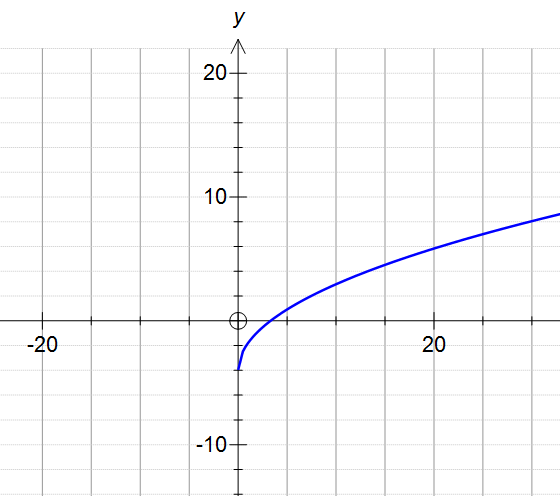
Range: Range:

Transformations: Transformations:

**Function Notation**

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| Function Notation: |

**Given the following graphs below find the indicated information.**

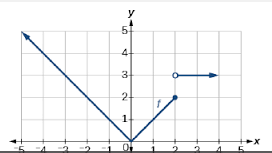
1. a) Is positive or negative?

b) Is the function even or odd?

c) X-Int: Y-Int:

d) How often does the line x = 1 intersect the graph?

How often does the line y = 2 intersect the graph?

2. a) Is positive or negative?

b) Is the function even or odd?

c) X-Int: Y-Int:

d) How often does the line x = 1 intersect the graph?

How often does the line y = 2 intersect the graph?

**Operations with Functions:**

Given the following:

|  |  |  |
| --- | --- | --- |
| A. | B. | C. |
| D. | E. | F. |

1) Given and , find (*f* + *g*)(*x*).

2) Given and , find (*f* – *g*)(*x*).

3) Given and, find (*f* + *g*) (*x*).

4) Given *f*(*x*) = 3*x*2 – 2*x* + 1 and *g*(*x*) = *x* – 4, find (*f* ● *g*)(*x*).

**Composition of Functions:**

1) Find [*f* ○ *g*] (*x*) for and.

2) Find [*g* ○ *f*] (*x*) for and.

3) Find f (g(*x*)) for and.

**Inverse Functions:**

Step-by-step:

* Step 1 Replace *f*(*x*) with *y* in the original equation.
* Step 2 Interchange *x* and *y*.
* Step 3 Solve for *y*.
* Step 4 Replace *y* with *f* –1(*x*).

1) Find the inverse of 2) Find the inverse of

3) Find the inverse of 4) Find the inverse of