Name: _____ Class: _____ Date: _____ ID: A

Unit #2 Part #2 Practice Exam: Solving and Graphing One and Two Variable Inequalities & Solving and Graphing Absolute Value Equations, Inequalities, and Functions

Problem

1. **For each of the following inequalities, solve the inequality for the given variable and then graph the inequality, and give me the solution set in inteval notation.**

   1. $-x+4+7x \le -2+3x+6$

2. $5(x+3)-6x \le 3(2x+1)-4x$

3. **For each of the following compound inequalities, please solve the inequality, graph the inequality, and give me the solution set for the inequality in interval notation.**

   3. $-15 \le 3(2x-1) \le 39$

4. $-5x-6+2x>6$ or $4(x-2)-2x+6>4$

5. **For each of the following inequalities, please graph the inequalities and shade the solution region of the inequality on the coordinate plane.**

   5. $y \le -\frac{1}{2}x+4$

6. $-6x+3y>-18$

7. **For each of the following Absolute Value equations please solve for x, graph your solutions, and express the solution in solution set notation.**

   7. $3|2x+6|-5=25$

8. $5|3(2x-2)-4x+4|-11=19$

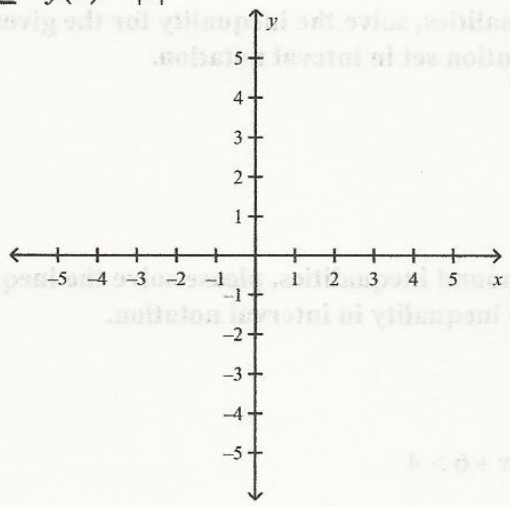
9. **For each of the following inequalities please solve for x, graph the inequality, and give me the solution in interval notation.**

   9. $2|4x+8|-5 \ge 27$

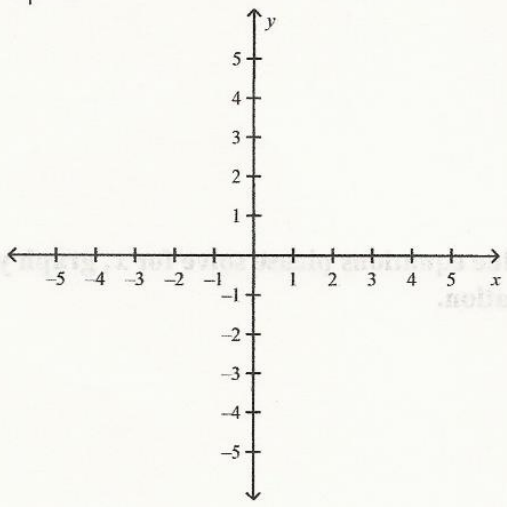
10. $-6|4(2x-3)-5x+3|+4>-14$

11. **To graph each of the following, first graph the parent function below, then graph each of the following functions using what you know about translations and explain how each graph has changed (translations or shifts) in comparison to the parent graph and what in the function has caused that change. (Write your explaination to the right of each graph.)**

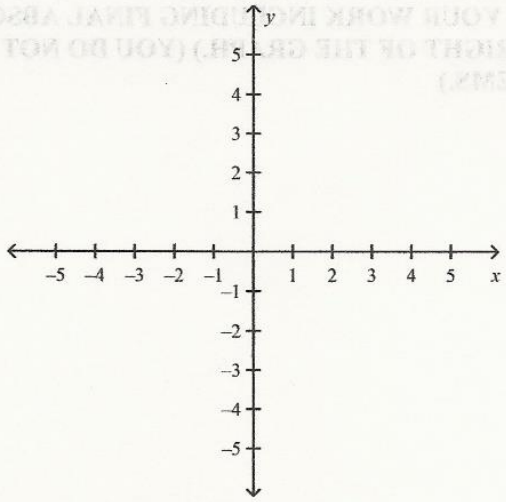
PARENT FUNCTION: $f(x) = |x|$



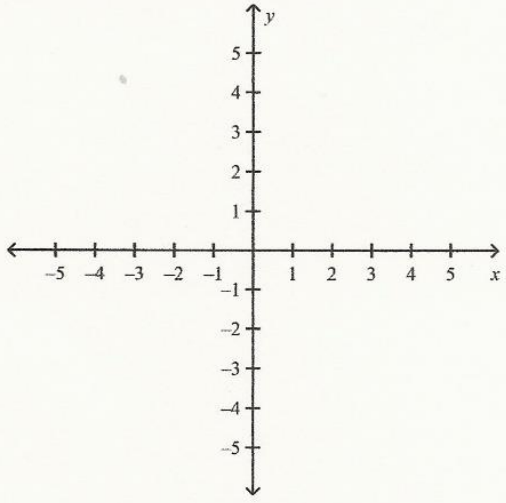
11. $f(x) = |x-3| - 4$



12. $f(x) = \frac{1}{3}|x-3|+2$



13. $f(x) = -2|3(3x+2)+4(-2x-2)|+5$



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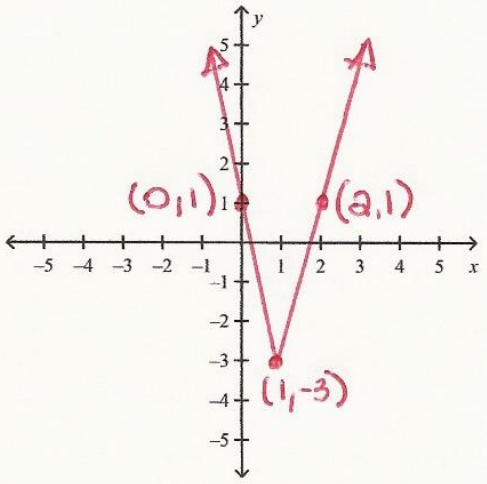
14. **For each of the following graphs, interpret the graphs, determine the shifts that need to have gone on to reach the given graph in comparison to the PARENT FUNCTION and then create the ABSOLUTE VALUE FUNCTION that would model that graph. (SHOW ALL OF YOUR WORK INCLUDING FINAL ABSOLUTE VALUE FUNCTION IN THE OPEN SPACE TO THE RIGHT OF THE GRAPH.) (YOU DO NOT NEED TO EXPLAIN THE SHIFTS IN WORDS IN THESE PROBLEMS.)**



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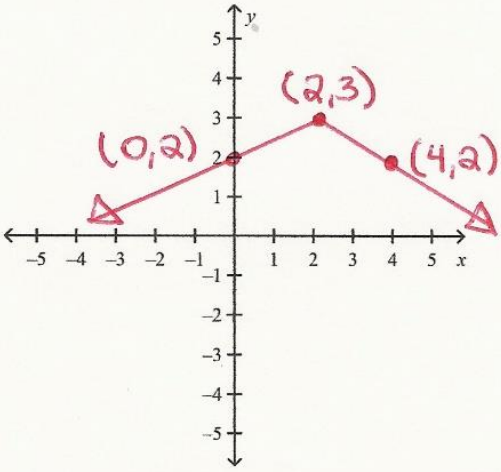

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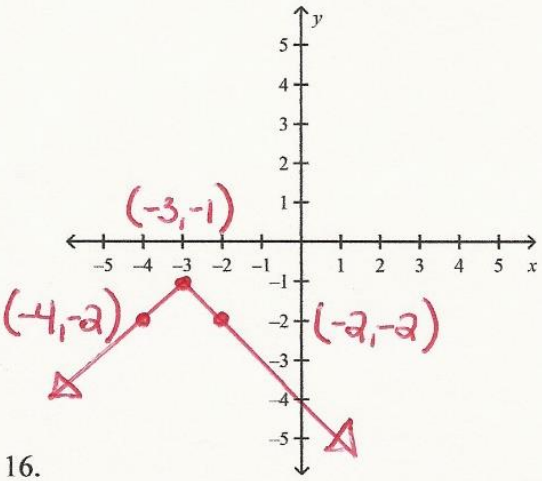

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