

Questions on 4.4 HW?

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Ready
Topic: Reflecting Images

1. Reflect $\triangle ABC$ across the line $y = x$. Label the new image as $\triangle A'B'C'$. Label the coordinates of points $A'B'C'$. Connect segments AA' , BB' , and CC' . Describe how these segments are related to each other and to the line $y = x$.

Signs change

2. On the graph provided to the right, draw a 5-sided figure in the 4th quadrant. Label the vertices of the pre-image. Include the coordinates of the vertices. Reflect the pre-image across the line $y = x$. Label the image, including the coordinates of the vertices.

The screenshot shows a PDF document with a math problem. The problem asks to reflect a triangle $\triangle ABC$ across the line $y = x$. The original triangle has vertices $A(-4, -2)$, $B(-6, 3)$, and $C(-3, 5)$. The reflected triangle $\triangle A'B'C'$ has vertices $A'(4, 2)$, $B'(6, -3)$, and $C'(3, -5)$. Handwritten notes in red say "Signs change". There is also a small image of a boat labeled A'' and a copyright notice: ©2013 <http://flic.kr/p/71k2MR>. Below the main graph is an empty coordinate plane for a second problem.

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value of $f(x)$. Use the graph of a sound wave to sketch a graph of the absolute value of the amplitude or $y = |f(x)|$.

figure 1

figure 2

5. *Figure 2* is a table of values for $g(x) = (x + 3)^2 - 9$. What values in the table would need to change if the function were redefined as $h(x) = |g(x)|$?

x	$g(x)$
-8	16
-7	7
-6	0
-4	-5
-3	-8
-2	-9
-1	-8
0	0

6. Graph $h(x) = |g(x)|$.

8.50 x 11.00 in

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Simplify. Write the answers in simplest radical form. Some answers may consist of numbers with no radical sign.

8. $(-7 - 2\sqrt{5}) + (6 + 8\sqrt{5})$

9. $(-10 - \sqrt{13}) - (-11 + 5\sqrt{13})$

10. $(4 - \sqrt{50}) + (7 + 3\sqrt{18}) - (12 - 2\sqrt{72})$

11. $\sqrt{98} + \sqrt{8}$

12. $(-2 - 7\sqrt{5}) + (2\sqrt{125}) - 3\sqrt{625}$

13. $(3r^2 - 8\sqrt{3}b^2) - (2r^2 - 3\sqrt{27}b^2)$

Handwritten solutions:

8. $-10 - \sqrt{13} + 11 - 5\sqrt{13}$
 $1 - 6\sqrt{13}$

9. $\sqrt{49} \cdot \sqrt{2} + \sqrt{4} \cdot \sqrt{2}$
 $7\sqrt{2} + 2\sqrt{2}$
 $9\sqrt{2}$

10. $\sqrt{3} \cdot \sqrt{6^2 b}$

11. $3r^2 - 8b\sqrt{3} - 2r^2 + 3b\sqrt{27}$

$b^2 - 8b\sqrt{3} + 3b\sqrt{9} \cdot \sqrt{3}$
 $b^2 - 8b\sqrt{3} + 9b\sqrt{3}$
 $b^2 + b\sqrt{3}$

Mini-test Tues. Review

#1-11 on pg.9

#11-20 on pg.17

→ Graphing Absolute Value Functions wks.

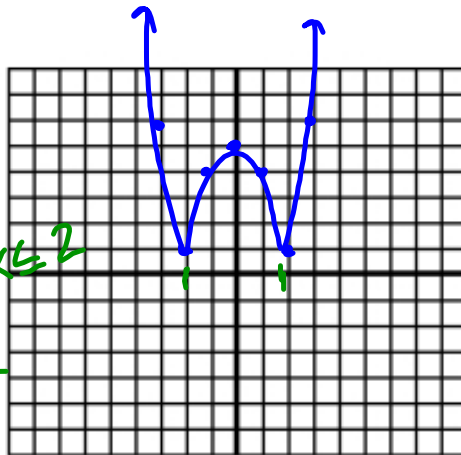
Finish 4.4 from page 19

Graph the following absolute value functions and write the corresponding piecewise functions for each.

11. $g(x) = |x^2 - 4| + 1$

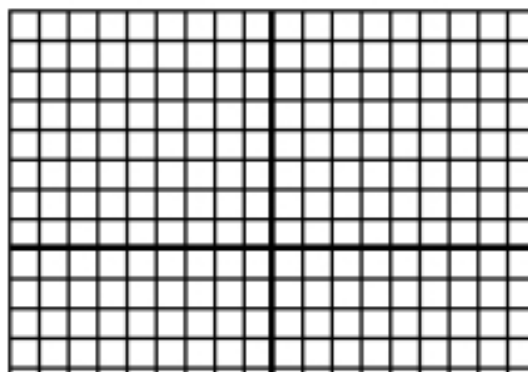
Piecewise:

$$g(x) = \begin{cases} -(x^2 - 4) + 1, & -2 \leq x \leq 2 \\ (x^2 - 4) + 1, & x < -2 \\ & \text{and} \\ & x > 2 \end{cases}$$



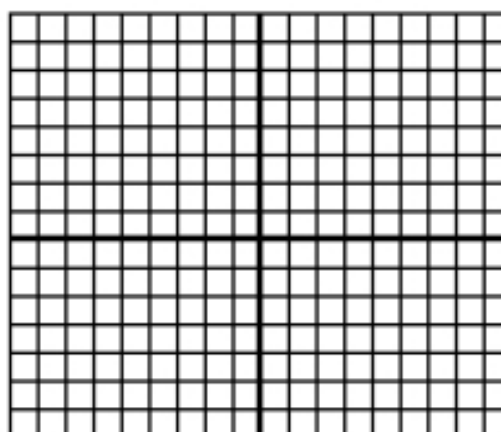
12. $g(x) = |(x + 2)^2 - 4| + 3$

Piecewise:



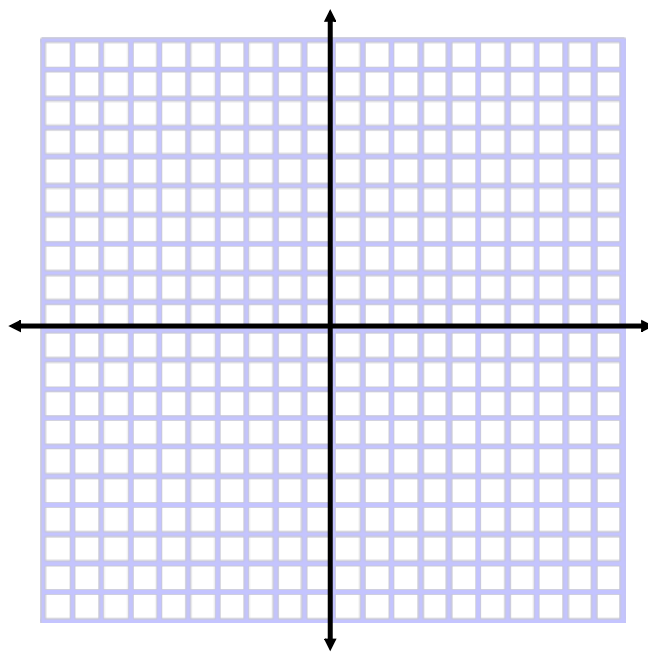
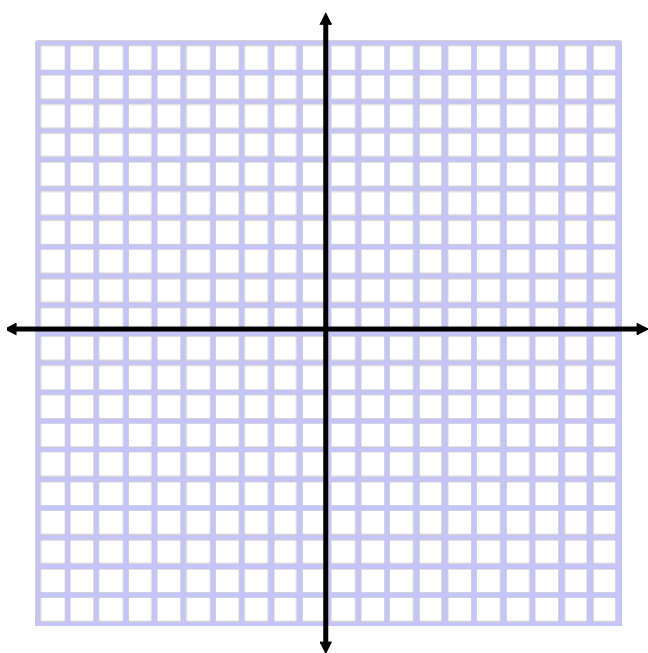
13. $g(x) = |(x - 3)^2 - 1| - 2$

Piecewise:



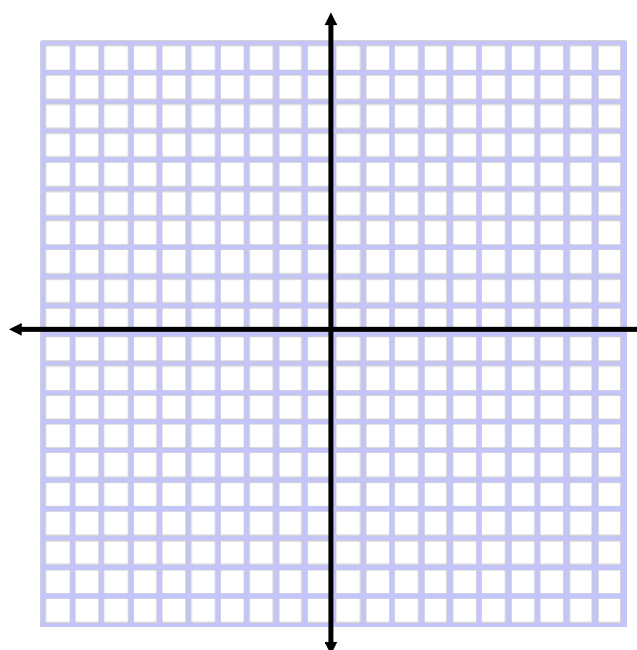
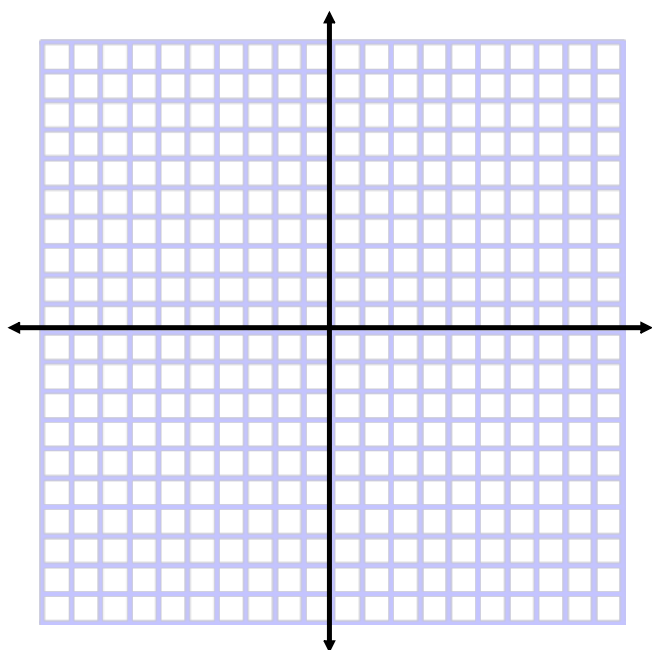
$$y = -|x + 2|$$

$$y = |x - 4| - 1$$



$$y = -|(x - 4)^2 + 4|$$

$$y = |(x + 1)^2| - 1$$



Homework

Finish "Graphing Absolute

Value Functions" WKS

Write a piecewise function
for each problem.