Grade sheets

① Total points possible — total points earned
    for Assignments and Assessments

② My plan to make these points up is...

Questions on 4.3 HW?

Apr 8-8:30 AM

3. $y = 6x^2 + 7x - 20$

$a = 6$

$b = 7$

$c = -20$

6. $y = \frac{1}{2}(x-1)^2 - 2$

$x = \dfrac{-7 \pm \sqrt{7^2 - 4 \cdot 6 \cdot -20}}{2 \cdot 6} =$

$\dfrac{-7 \pm \sqrt{529}}{12} =$

$\dfrac{-7 \pm 23}{12}$

$\dfrac{-7 + 23}{12}$ & $\dfrac{-7 - 23}{12} = \dfrac{-30}{12}$

$= \dfrac{16}{12} \left(\dfrac{4}{3}\right)$ $= \left(-\dfrac{5}{2}\right)$

he function.

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17 / 38

8.50 x 11.00 in

each expression for the given value of the

= 4   12. $-t$; $t = -7$ 13. $-x$;

$$--7 = 7$$

$= -25$ 16. $-(a)$; $a = -25$

$)|$; $p = -6$ 19. $|-(-q)|$; $q = 8$

Evaluate each expression for the

11. $-s$; $s = 4$ 12. $-t$; $t =$

$$-4$$

15. $|v|$; $v = -25$ 16.

$$|-25| = 25$$

18. $|-(-p)|$; $p = -6$ 19.

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18. $|-(-p)|;\ p = -6$ 19. $|-(-q)|;\ q = 8$ 20. $-|-(-r)|;\ r = -$

$$|-(+ + 6)| =$$
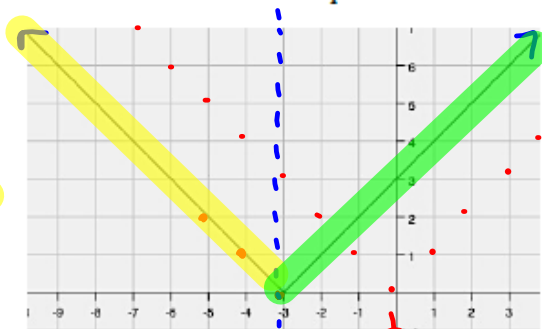
$$|-6| = 6$$

8.50 x 11.00 in

Dec 14-12:18 PM

4

Finishing 4.3 part 3

Part III

6. The graph below is another example of an absolute value function. The equation of this function can be written two ways:

   as an absolute value function: $f(x) = |x + 3|$

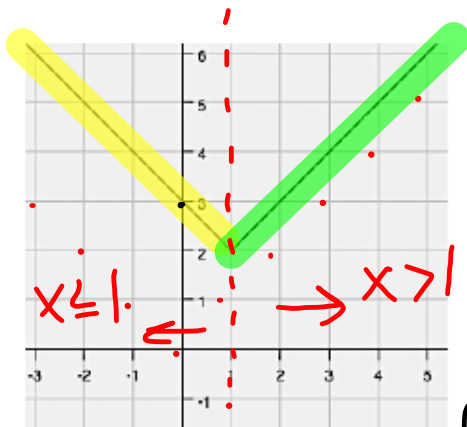   or as a piece-wise: $f(x) = \begin{cases} -(x+3), & x < -3 \\ (x+3), & x \geq -3 \end{cases}$

   -x-3

   ↑

   line of symmetry

   How do these two equations relate to each other?

   same, but the piecewise function has a ⊖ half & ⊕ half

   Below are graphs and equations of more linear absolute value functions. Write the piece-wise function for each. See if you can create a strategy for writing these equations.
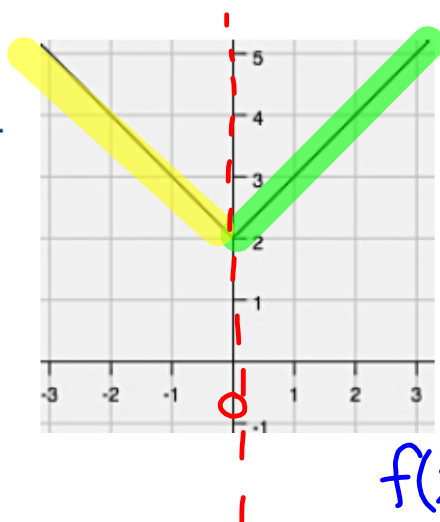
7.

   $x \leq 1$ → $x > 1$

   Abolute value: $f(x) = |x - 1| + 2$

   Piece-wise:

   $-(x-1)+2$
   $-x+1+2$
   $-x+3$

   $f(x) = \begin{cases} -(x-1)+2, & x \leq 1 \\ (x-1)+2, & x > 1 \end{cases}$

8.

   Abolute value: $f(x) = |x| + 2$

   Piece-wise: $f(x) =$

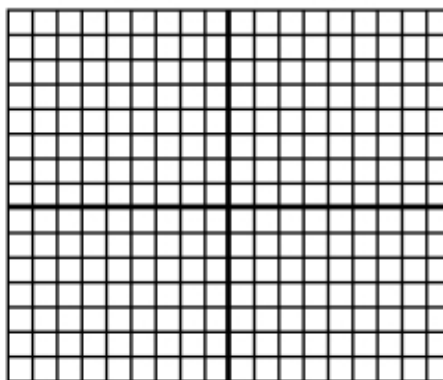 $f(x) = \begin{cases} -(x)+2, & x \leq 0 \\ (x)+2, & x > 0 \end{cases}$

Dec 8-1:22 PM

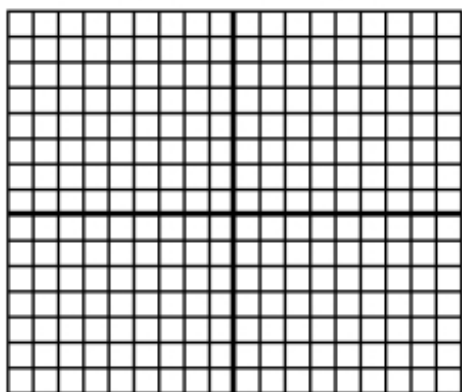Graph the following linear absolute value piece-wise functions.

9. $f(x) = |x - 4| = \begin{cases} -(x-4), & x < 4 \\ (x-4), & x \geq 4 \end{cases}$

10. $f(x) = |x| + 1 = \begin{cases} -(x) + 1, & x < 0 \\ (x) + 1, & x \geq 0 \end{cases}$

11.

Piece-wise: $f(x) = \begin{cases} -3(x+2) + 1, & x < -2 \\ 3(x+2) + 1, & x \geq -2 \end{cases}$

Absolute Value: $f(x) =$

12. Explain your method for doing the following:

    a) Writing piecewise linear absolute value functions from a graph.
    b) Writing piecewise linear absolute value functions from an absolute value function.
    c) Graphing absolute value functions (from either a piecewise or an absolute value equation).

4.4 Reflections of a Bike Lover
A Practice Understanding Task

1. Graph the function $f(x) = x^2 - 4$

2. Graph $g(x) = |f(x)|$ on the same set of axes as $f(x)$.
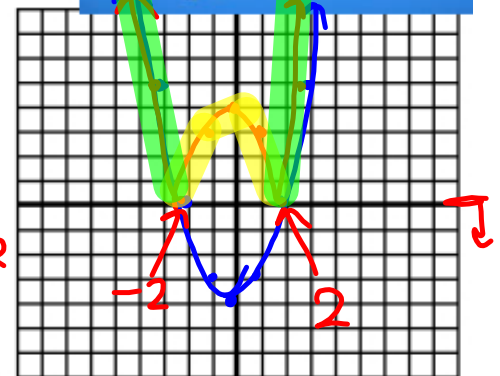
$$g(x) = |f(x)| = |x^2 - 4|$$

3. Explain what happens graphically.

the negative y-values will reflect across the x-axis & become

4. Write the piecewise function for $g(x)$.

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

5. Explain your process for creating this piecewise function.
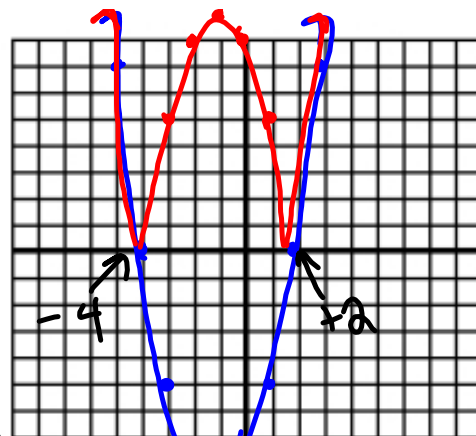
6. Graph the function $f(x) = (x + 1)^2 - 9$

7. Graph $g(x) = |f(x)|. = |(x+1)^2 - 9|$

8. Explain what happens graphically?
   neg. y-values became $\oplus$

9. Write the piece-wise function for $g(x)$.

$$g(x) = \begin{cases} -[(x+1)^2 - 9], & -4 \leq x \leq 2 \\ (x+1)^2 - 9, & x < -4 \text{ and } x > 2 \end{cases}$$
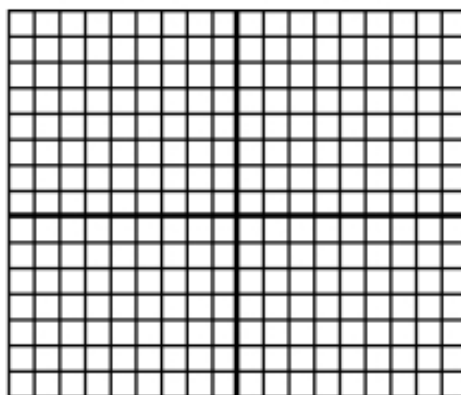
10. What do you have to think about when writing any absolute value piece-wise function?

Graph the following absolute value functions and write the corresponding piecewise functions for each.
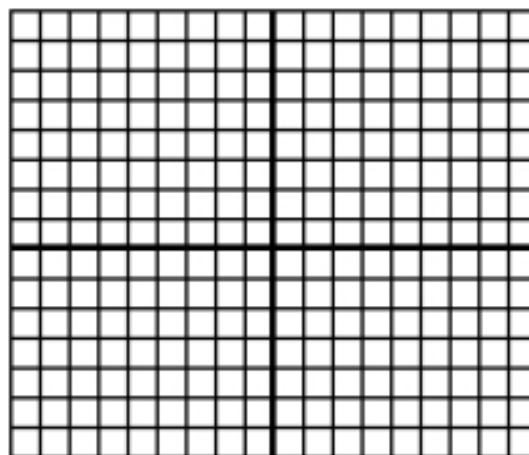
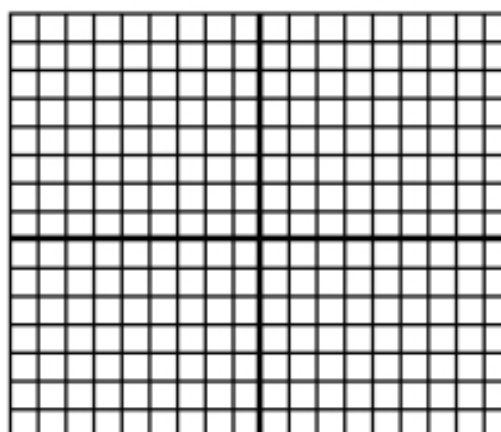11. $g(x) = |x^2 - 4| + 1$

   Piecewise:

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

   Piecewise:

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

   Piecewise:

Dec 12-1:45 PM

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Homework

Finish 4.4 "Ready, Set, Go"