January 3, 2012

Monday	Tuesday	Wednesday	Thursday	Friday
2 Pg	3 Pg	4 Pg	5 Pg	6 Pg
9 Rev	10 Test	11	12	13 Drop Dead Day
16 X	17	18 Minimal	19	20 X

Get out your homework - pg 302 #8-40 even

38) $f(x) = \frac{1}{2}x + 2$, $g(x) = 2x - 4$

$$f(g(x)) = \frac{1}{2}(2x - 4) + 2$$
$$= x - \cancel{2} + \cancel{2}$$
$$= x$$

$$g(f(x)) = 2\left(\frac{1}{2}x + 2\right) - 4$$
$$= x + \cancel{4} - \cancel{4}$$
$$= x$$

1/3 - Special Functions - Step-Wise Functions

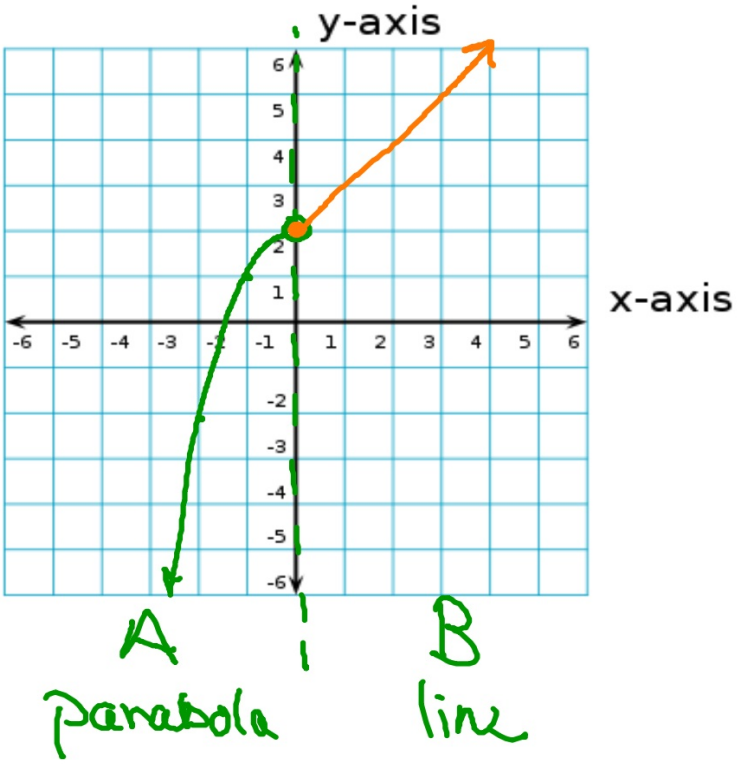
$$f(x) = \begin{cases} -x^2 + 2, & x < 0 \\ x + 2, & x \geq 0 \end{cases}$$

Graph it!

$$f(x)=\begin{cases}-x^2+2, & x<0 \quad A\\ x+2, & x\geq 0 \quad B\end{cases}$$

$y=-x^2+2$

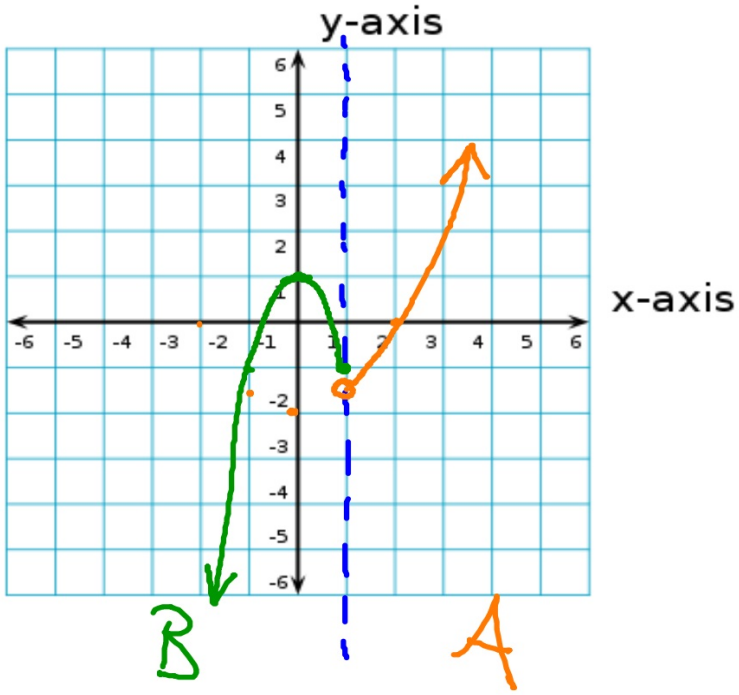
$y=x+2$



$$g(x)=\begin{cases}\frac{1}{2}x^2-2, & x>1 \quad A\\ -2x^2+1, & x\le 1 \quad B\end{cases}$$

$y=\frac{1}{2}x^2-2$

$y=-2x^2+1$



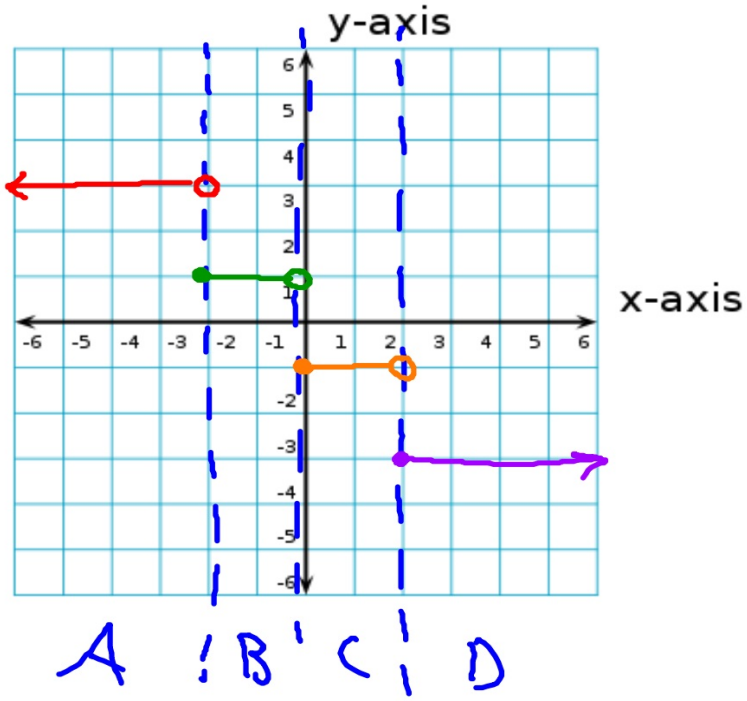
$$h(x) = \begin{cases} 3, & x < -2 \quad (A) \\ 1, & -2 \le x < 0 \quad (B) \\ -1, & 0 \le x < 2 \quad (C) \\ -3, & x \ge 2 \quad (D) \end{cases}$$

$y=3$

$y=1$

$y=-1$

$y=-3$



Write the absolute value function as a compound function.

$$f(x) = |x - 2|$$

Right 2

Vertex (2,0)

$$f(x) = \begin{cases} -(x-2), & x < 2 \\ -x+2 & \\ x-2, & x \geq 2 \end{cases}$$

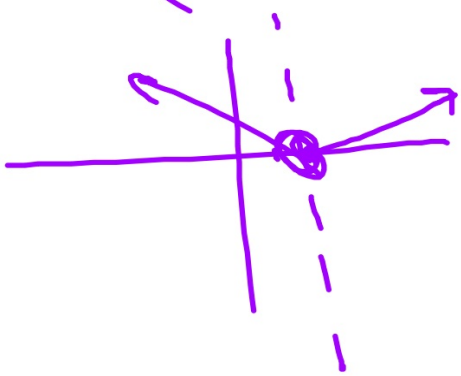
$h(x) = \left|\frac{1}{2}x - 1\right|$ $\quad \frac{1}{\frac{1}{2}} = 2$

$g(x) = |2x + 1|$

Vertex $\left(-\frac{1}{2}, 0\right)$

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

$$g(x) = \begin{cases} 2x + 1, & x \geq -\frac{1}{2} \\ -2x - 1, & x < -\frac{1}{2} \end{cases}$$



HOMEWORK

page 309 #6-30 even

Due: Thurs.