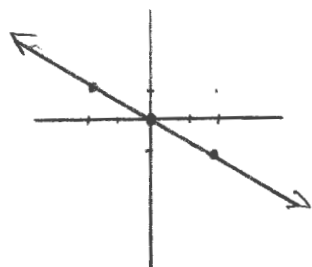
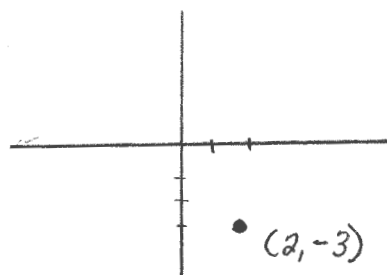


1.
$$h(x) = \begin{cases} -\frac{x}{2} & \text{if } x \neq 2 \\ -3 & \text{if } x = 2 \end{cases}$$

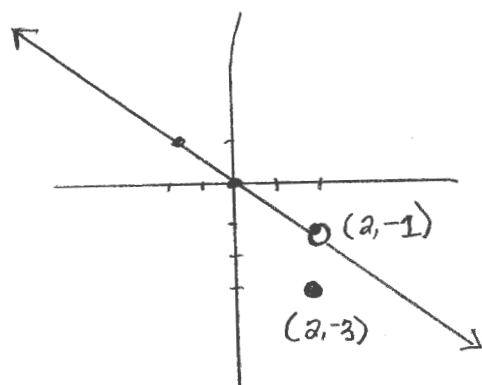
First, graph $y = -\frac{x}{2}$:



Now graph the point $(2, -3)$



Now superimpose the two graphs with a hole at $(2, -1)$

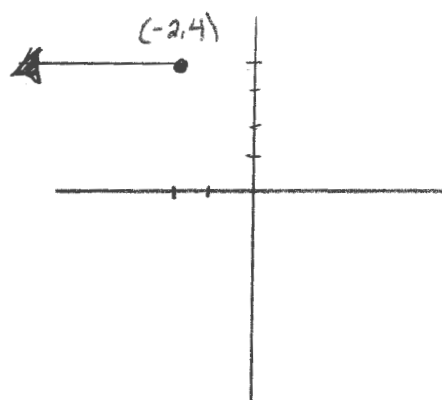


Since the graph $y = -\frac{x}{2}$ isn't allowed to have $x = 2$, we must put an open circle at that point where $x = 2$.

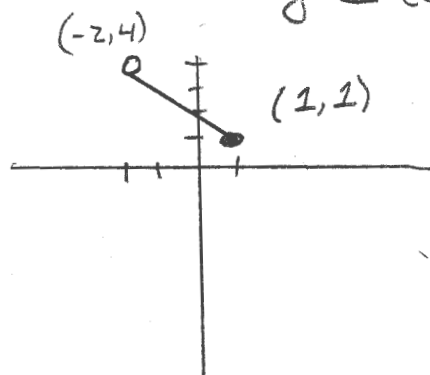
2.

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

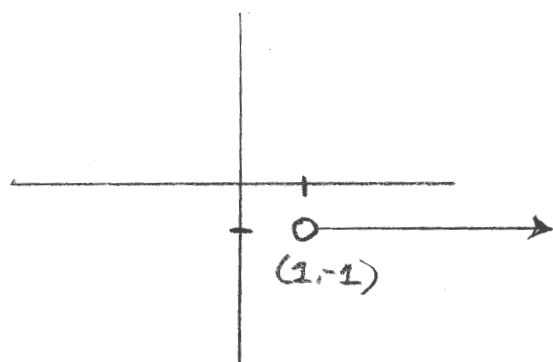
First, graph $y = 4$ where $x \leq -2$:



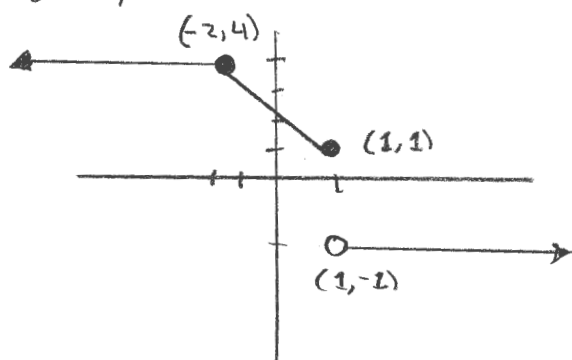
Now graph $y = -x + 2$ between -2 and 1 not including -2 (open circle) but including 1 (dot)



Lastly, graph $y = -1$ where $x > 1$ (Remember, open circle at $x = 1$ since $>$)
(If it were $\geq$ we would use a solid dot)



Now, lay the three graphs on top of each other, and, voila! You're done.

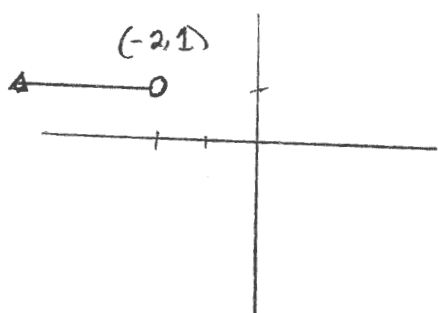


Note: The open circle at $(-2, 4)$ from graph #2 got filled in when plopped the dot at $(-2, 4)$ from graph #1 on top of it.

3.

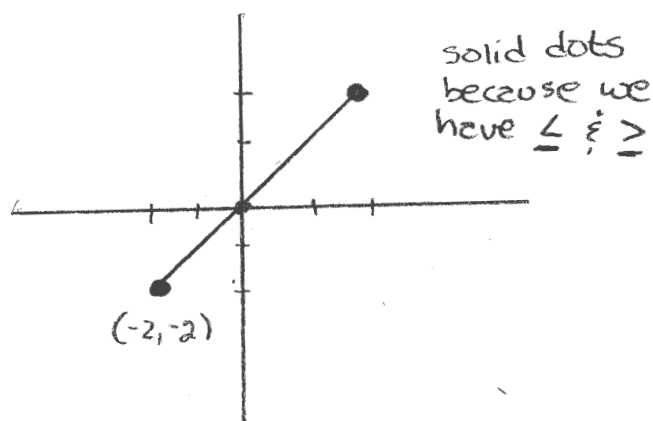
$$f(x) = \begin{cases} 1 & \text{if } x < -2 \\ x & \text{if } -2 \leq x \leq 2 \\ 1 & \text{if } x > 2 \end{cases}$$

First, plot $y = 1$ when $x < -2$

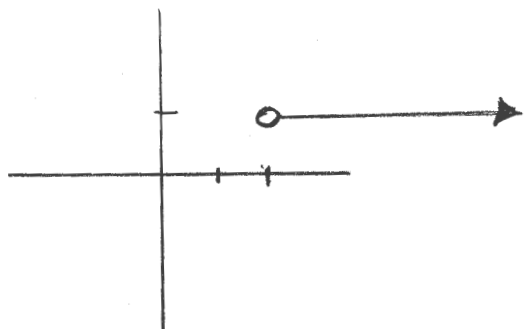


open circle since $<$
(would be solid dot if $\leq$)

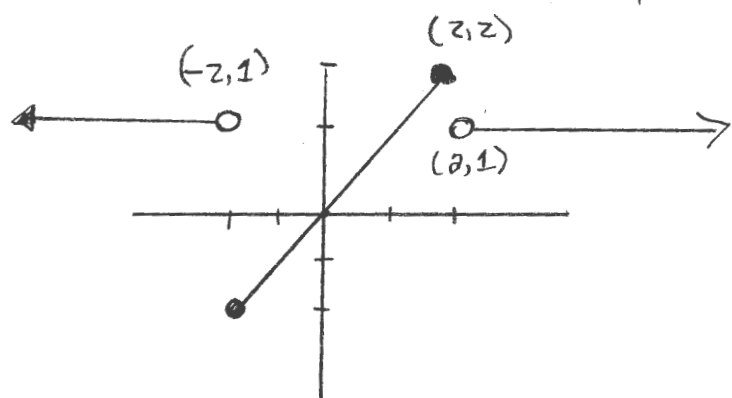
Now, $y = x$ between $x = -2$ and $x = 2$:



lastly, graph $y=1$ for $x \geq 2$
(open circle)



Finally,
Stack all 3 graphs on top of each other like you had
printed them on transparencies:



And, Bob's your uncle!