Rough Work + HW-1.1

① $2l+2w=P$

$2l+2w=18$ then

$l=\frac{18-2w}{2} = l=9-w$

$A(w)=9-w(w)$

② $f(x)$; $(9,-1)$ & $(-6,5)$

$m=\frac{y_2-y_1}{x_2-x_1}=\frac{5-(-1)}{-6-9}=\frac{6}{-15}$

$y=\frac{-6}{15}x+b$: $5=\frac{-6}{15}(-6)+b$

$\frac{75}{15}=\frac{36}{15}+b$; $b=\frac{75}{15}-\frac{36}{15}$

$y=\frac{-6}{15}x+\frac{13}{5}$

③ $14x=7y+13$; $7y=14x-13$

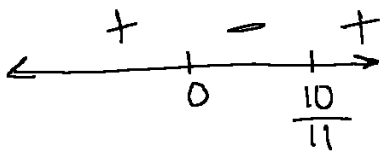
$y=\frac{14}{7}x-\frac{13}{7}=\boxed{2x-\frac{13}{7}}$

slope $=2$ & y-int: $\frac{-13}{7}$

④ $f(x)=\sqrt{11-x^2-10x}$

$11x^2-10x\geq 0$

$(11x-10)x=0$; $x=0$ & $\frac{10}{11}$



$D: x\in(-\infty,0]\cup[\frac{10}{11},\infty)$

④ but varied to odd # then

$D: x\in\mathbb{R}$

⑤ $f(x)=\frac{4}{4x-5}=\frac{4x}{1-5x}$

$1-5x=0$ then $x=1/5$ & $x\neq 0$

$D: x\in(-\infty,0)\cup(0,\frac{1}{5})\cup(\frac{1}{5},\infty)$

⑥ $g(x)=\frac{10x+|x|}{x}=10+\frac{|x|}{x}$

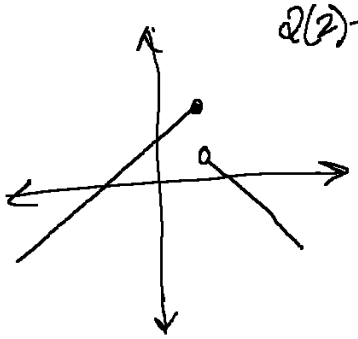
then $D: x\in(-\infty,0)\cup(0,\infty)$

then Range: $\{9,11\}$

⑦ $f(x)=\begin{cases}2x-10; & x\leq 2\\ 4-\frac{1}{2}x; & x>2\end{cases}$

$2(2)-10=4-10=-6$

$4-\frac{1}{2}(2)=3$



⑧ Analyzing a graph and predicting range

⑨ Guessing the graph based on the equation.

⑩
ⓐ $f(-5)=3$
ⓑ $f(x)=g(x)$ at $\{-3,2\}$
ⓒ $g(x)=5$ then $x=0$
ⓓ $f(x)\downarrow \forall x\in(-5,0)$

⑪ $f(x)=\begin{cases} f_1(x) & x<1 \\ f_2(x) & 1\le x\le 3 \\ f_3(x) & x>3 \end{cases}$

$f_1(x)=2$; $f_2(x)=x-2$

$f_3(x)=2x-7$

$y=2x+b$ at $(3,-1)$

$-1=2(3)+b$; $-1-6=b$

$y=2x-7$

⑫ At noon I am a distance 1 mile away from the lake relaxing. Towards lake at 1mph. Then picnic then towards at 1mph to home is 0 miles away

look at the graph properly dumbass.

⑬
1. $f(x)=x^6$ E
2. $f(x)=x^3+x^9+x$ O
3. $f(x)=-5x^4-3x^6-3$ E
4. $f(x)=x^4-6x^6+3x^6$ E