You solved $|2w - 5| + 4 < 13$, instead of $|2w - 5| + 4 > 13$. You should first simplify to $|2w - 5| > 9$ and then rewrite without absolute value as $2w - 5 > 9$ or $2w - 5 < -9$. The correct answer is $w > 7$ or $w < -2$.