If $|X| \geq 8$, then $X \geq 8$ or $X \leq -8$. In this problem X is $2z + 4$. This means that you have to solve two inequalities: $2z + 4 \geq 8$ and $2z + 4 \leq -8$. It seems that you found the solution to the first inequality but forgot to solve the second one.