Calculating cations in Magnesium chloride and Calcium chloride

Wanted cation level for Magnesium chloride: 12,5 mg Mg++/liter.

Wanted cation level for Calcium chloride: 25 mg Ca++/liter.

		Mg++	Ca++
Wanted cation level in mg/liter	(= a)	12,5	25
Molecule weight of cations	(= x)	24,312	40,08
Molecule weight of hydrated salt	(= y)	203,30	147,02
Actual cation level in broth batch in mg/liter		B	b
Quantity of cations to be added in mg/liter	(= a-b)	W	w
Hydrated salt needed in mg/liter		$\frac{w \cdot y}{x} = 8{,}362 \cdot w$	$\frac{w \cdot y}{x} = 3{,}668 \cdot w$

Mueller Hinton broth batch nr.: _____, contains:

Mg++: b = _____ (actual cation level)

Ca++: b = _____ (actual cation level)

Quantity of cations to be added:

Mg++: w = a - b: 12,5 - =

Ca++: w = a - b: 25,0 - =

Conversion from cations to the quantity of hydrated salt to be added to 1 liter Mueller Hinton broth:

Magnesium chloride: $8{,}362 \cdot w$ = _____ mg

Calcium chloride: $3{,}668 \cdot w$ = _____ mg

Multiply the quantities above with the no. of liters needed.

The calculations are controlled by another technician, and both technicians sign below:

_____

Note the quantity of the Magnesium chloride and Calcium chloride that should be added when producing the Mueller Hinton broth, and put a label with this information on the container with the batchno. in question.