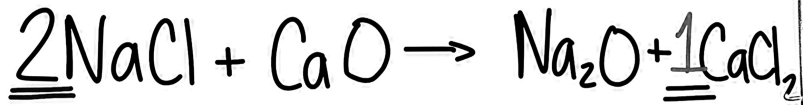


## Single Step

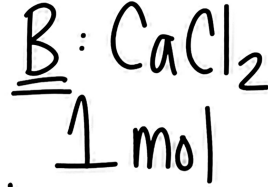
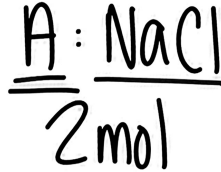
mol A  $\rightarrow$  mol B



Convert 3.0 mol NaCl to mol CaCl<sub>2</sub>

A: start [left problem]

B: Finding (end) [right problem]

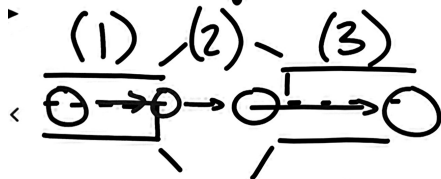


2 mol

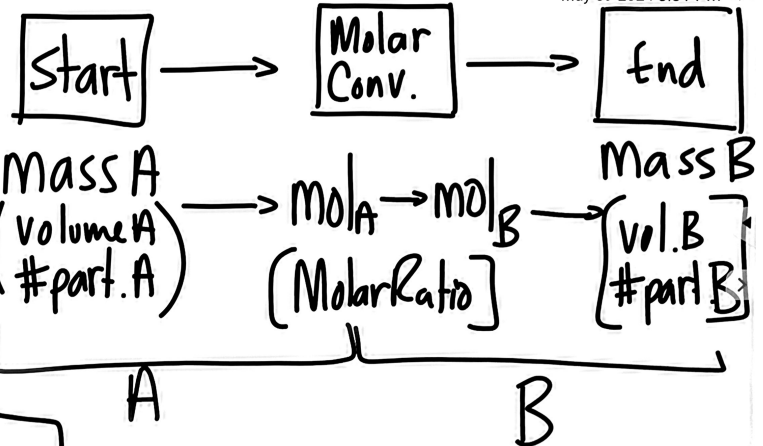
1 mol

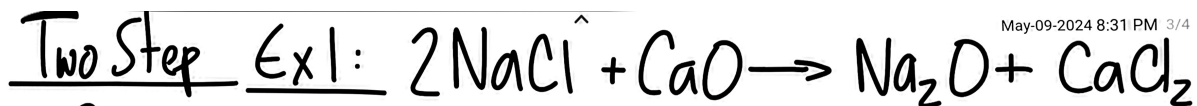
Molar Ratio

## Conversion Pathway Roadway



- ① To Intersection A
- ② Thru Intersection A  $\rightarrow$  B
- ③ From Intersection B





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Convert 30.2g NaCl to mol CaCl<sub>2</sub>

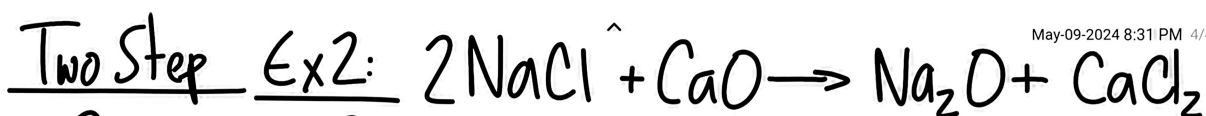
Steps:  $\text{mass}_A \rightarrow \text{mol}_A \rightarrow \text{mol}_B$

(start) (g) ① (mol) ② (mol)

|   |                           |                                       |   |                        |                            |
|---|---------------------------|---------------------------------------|---|------------------------|----------------------------|
| ① | <u>30.2 g<sub>A</sub></u> | <u>1 mol<sub>A</sub></u>              | ② | <u>mol<sub>A</sub></u> | <u>( ) mol<sub>B</sub></u> |
|   |                           | <u>(MM<sub>A</sub>) g<sub>A</sub></u> |   |                        | <u>( ) mol<sub>A</sub></u> |

= mol<sub>A</sub>

( ) Molar Ratio (Rxn) = mol<sub>B</sub>



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Convert 3.0mol NaCl to mass CaCl<sub>2</sub>

Steps:  $\text{mol}_A \rightarrow \text{mol}_B \rightarrow \text{mass}_B$

(mol) (mol) (g)

|   |                                |                                |   |                        |                          |
|---|--------------------------------|--------------------------------|---|------------------------|--------------------------|
| ① | <u>(start) mol<sub>A</sub></u> | <u>(ratio) mol<sub>B</sub></u> | ② | <u>mol<sub>B</sub></u> | <u>MM g<sub>B</sub></u>  |
|   |                                | <u>(ratio) mol<sub>A</sub></u> |   |                        | <u>1 mol<sub>B</sub></u> |

= mol<sub>B</sub>

= g<sub>B</sub>