

## Determining Cation Charges



3A Poly. Ion

+3 -1

$$aA + bB = 0$$

$a, b$  = subscripts

$A, B$  = charges



$$aA + bB = 0$$

$$aA = -bB$$

$$1 \cdot +3 = -3 \cdot -1$$

$$+3 = +3$$



Na (IA): +1

$PO_4$ : -1

(check chart)

All anions (-)  
have a fixed  
charge!

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## Ionic Charge Formula

Transition Metals Charges

$$aA + bB = 0$$

$$\frac{aA}{a} = -\frac{bB}{a}$$

$$A = -\frac{bB}{a}$$

(Cation charge)



|    |            |
|----|------------|
| +A | -2 (chart) |
|----|------------|

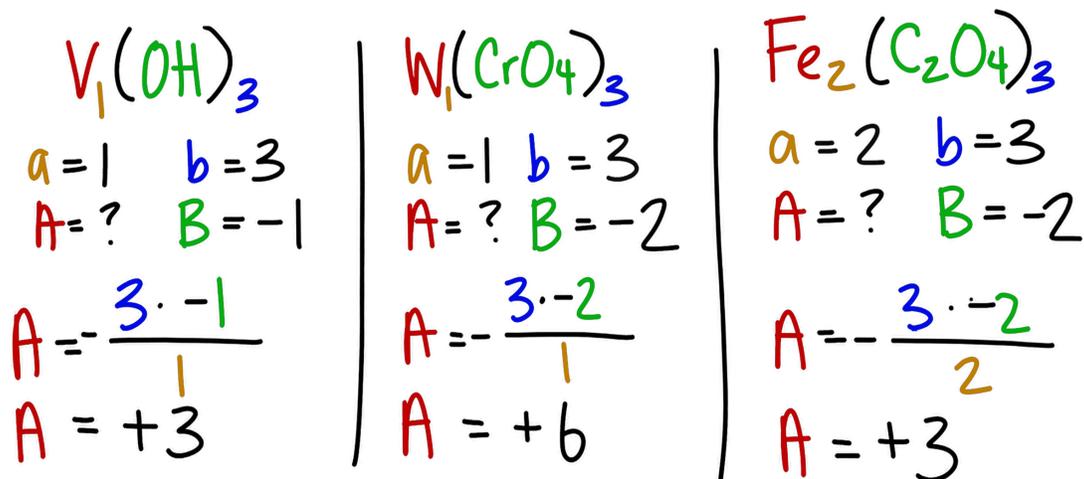
$$A = -\frac{1 \cdot -2}{1} = +2$$

$$A = +2 (Cu)$$

Use whole  
poly ion!

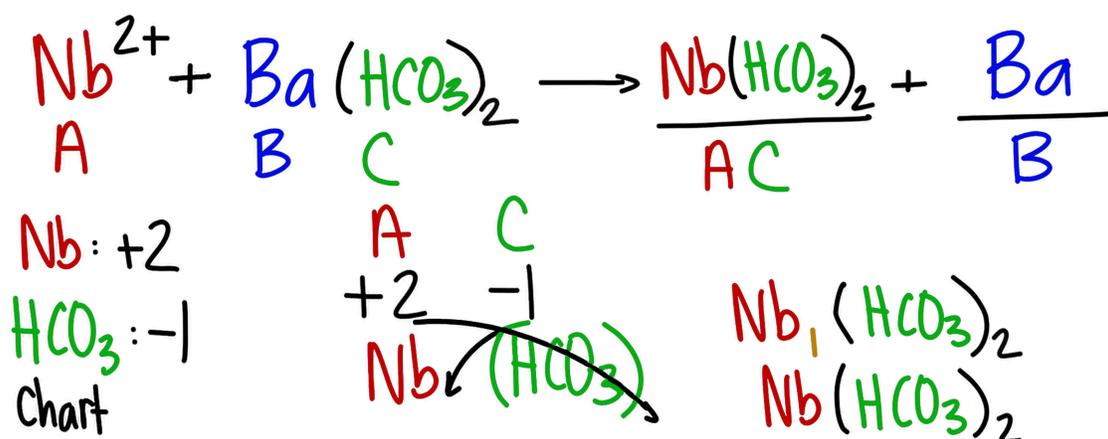
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## Determining Cation Charge Examples



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## Single Replacement Rxns w/Poly Ions



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