

Name Key
 Sign NA = Not attempted

Name BA = bad attempt
 Print (bc can't read signature) NW = no work

Please **show work on all questions** for full credit & partial credit. (20 total pts)

1. Is Ca(OH)₂ [(soluble) or (insoluble)] (circle one) in water? Explain giving the solubilities rules table statements. (4 pts)

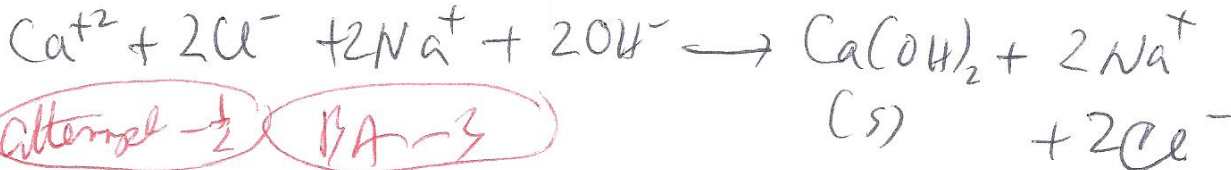
OH⁻ are insoluble + Ca not exception

2. a. Write out the **balanced** molecular equation for the reaction below by filling in the blanks.



attempt - 1/2 pt (s) re wrote reactant - 4

- b. Write out the total ionic equation for the reaction shown above. (6 pts)

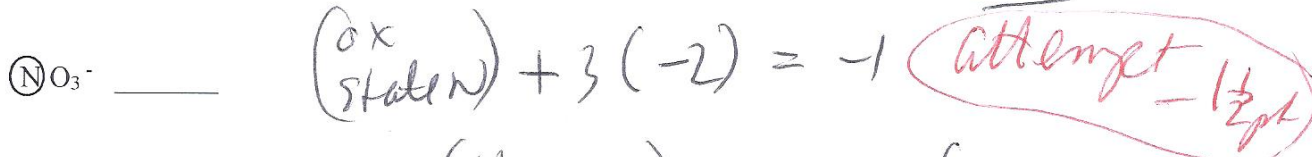


attempt - 1/2 BA - 3

3. Give the oxidation states of the circled element. Show work or explain where you got the number. (3 pts each, 6 pts total)

unrelated answer - 3 each

Ca 0 element in stable state has zero



Extra Credit: (2 pts each, 4 pts)

(N ox state) = -1 + 6 = +5

1. If you dissolve 5.62 grams of the compound Na₂O in 92.7 mL of solution, show your work for calculation of Molarity of the solution. (FW of Na₂O = 62.00 grams/mol) (M = moles/liter)

BA - 1
attempt - 1/2
 $\frac{5.62 \text{ g Na}_2\text{O}}{92.7 \text{ ml}} \times \frac{1 \text{ mol Na}_2\text{O}}{62.00 \text{ g Na}_2\text{O}} \times \frac{1000 \text{ ml}}{1 \text{ L}} = 0.978 \text{ M}$
1/2 pt 1/2 pt

2. If you take 12.5 mL of the solution which you made above and dilute it to make up 250.6 mL of solution, what is the new molarity of the diluted solution? Show work. (M_iV_i = M_fV_f)

BA = 1
attempt - 1/2
 $(0.978 \text{ M})(12.5 \text{ ml}) = M_f (250.6 \text{ ml})$
 $0.0488 \text{ M} = M_f = (0.978 \text{ M})(12.5 \text{ ml}) / (250.6 \text{ ml})$

Name _____ Name _____
Sign _____ Print (bc can't read signature)

Please **show work on all questions** for **full credit & partial credit**. (20 total pts)

1. Is $\text{Ca}(\text{OH})_2$ [(soluble) or (insoluble)] (circle one) in water? Explain giving the solubilities rules table statements. (4 pts)

2. a. Write out the **balanced** molecular equation for the reaction below by filling in the blanks.



b. Write out the total ionic equation for the reaction shown above. (6 pts)

3. Give the oxidation states of the circled element. Show work or explain where you got the number. (3 pts each, 6 pts total)

Ca _____

$\textcircled{\text{N}}\text{O}_3^-$ _____

Extra Credit: (2 pts each, 4 pts)

1. If you dissolve 5.62 grams of the compound Na_2O to make up 92.7 mL of aq solution, show your work for calculation of Molarity of the solution. (FW of $\text{Na}_2\text{O} = 62.00$ grams/mol) ($M = \text{moles/liter}$)

2. If you take 12.5 mL of the solution which you made above and dilute it to make up 250.6 mL of solution, what is the new molarity of the diluted solution? Show work. ($M_i V_i = M_f V_f$)