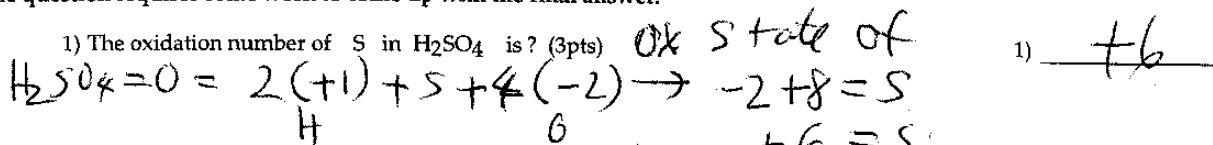


Name Kay print _____ Name _____ sign _____

For long answer type questions, you must show all work for partial credit. Please write legibly. (I cannot grade what I cannot read.) Please print your name on the top back of the quiz so that I can return the quiz in a self serve fashion. (1 pts. for writing name on the back & front)

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question. Show work if the question requires some work to come up with the final answer.



2) Molarity is defined as (please complete the word equation in the space below): (3 pts) 2) _____

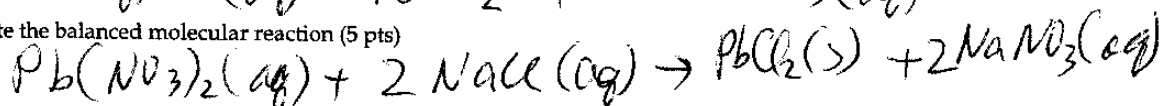
M = moles of solute

3) If the system loses heat energy, the surrounding will _____ energy according to the first law of thermodynamics. (extra credit) (1/2 pt) 3) gain

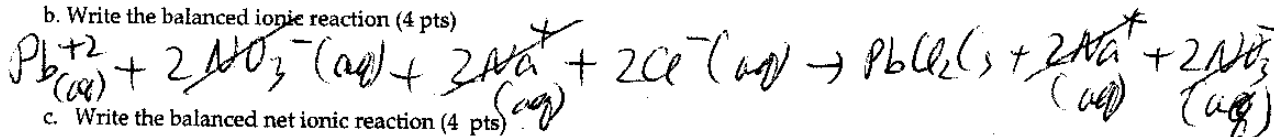
Long Answer. Write your answer in the space provided. Please show work for full credit and to receive partial credit for incorrect final answers. (write legibly please)

4) For the following metathesis reaction (this is not a redox reaction) (Use your solubility table & write the product) $Pb(NO_3)_2 + NaCl \rightarrow PbCl_2(s) + NaNO_3(aq)$

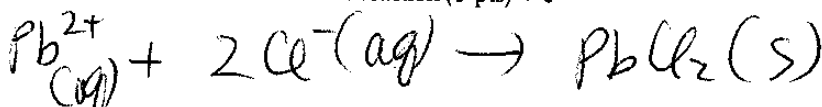
a. Write the balanced molecular reaction (5 pts)



b. Write the balanced ionic reaction (4 pts)



c. Write the balanced net ionic reaction (4 pts)



5) If you have 46.7 mL of a 2.7 M solution of Ca(OH)₂ (use dimensional analysis to show)

a. How many moles of Ca(OH)₂ do you have? (extra credit 1/2 pt)

$46.7 \text{ mL soln} \times \frac{1 \text{ liter soln}}{1000 \text{ mL soln}} \times \frac{2.7 \text{ mol Ca(OH)}_2}{1 \text{ liter soln}} = 0.126 \text{ mol Ca(OH)}_2$

b. How many moles of OH⁻ do you have? (extra credit 1/2 pt)

Since 1 mol Ca(OH)₂ is equivalent to 2 moles OH⁻ (2x above) or

$46.7 \text{ mL soln} \times \frac{1 \text{ liter soln}}{1000 \text{ mL soln}} \times \frac{2.7 \text{ mol Ca(OH)}_2}{1 \text{ liter soln}} \times \frac{2 \text{ mol OH}^-}{1 \text{ mol Ca(OH)}_2} = 0.252 \text{ mol OH}^-$

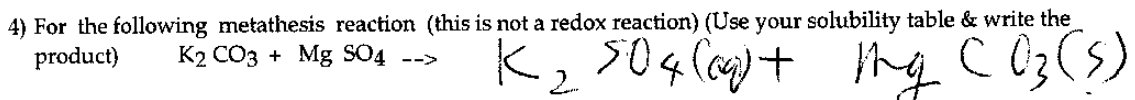
Name key print Name _____ sign _____

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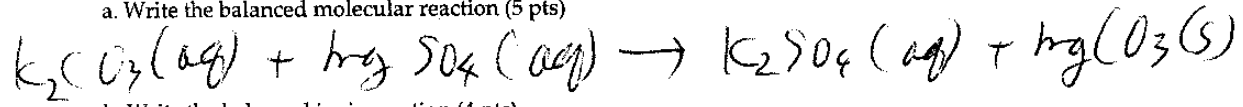
SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question. Show work if the question requires some work to come up with the final answer.

- 1) The oxidation number of C in H_2CO_3 is? (3 pts) Ox state of $H_2CO_3 = 0$
 $0 = 2(+1) + C + 3(-2) \rightarrow -2 + 6 = C$
 $+4 = C$ 1) +4
- 2) Molarity is defined as (please complete the word equation in the space below): (3 pts) 2) _____
 $M = \frac{\text{moles of solute}}{\text{liter solution}}$
- 3) If the system loses heat energy, the surrounding will _____ energy according to the first law of thermodynamics. (extra credit) (1/2 pt) 3) gain

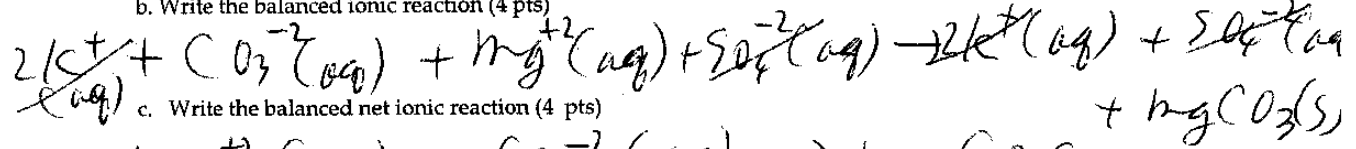
Long Answer. Write your answer in the space provided. Please show work for full credit and to receive partial credit for incorrect final answers. (write legibly please)



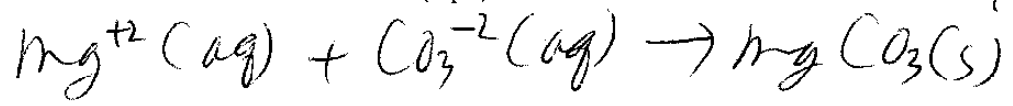
a. Write the balanced molecular reaction (5 pts)



b. Write the balanced ionic reaction (4 pts)



c. Write the balanced net ionic reaction (4 pts)



5) If you have 36.2 mL of a 1.7 M solution of $Ca(OH)_2$ (use dimensional analysis to show)

a. How many moles of $Ca(OH)_2$ do you have? (extra credit 1/2 pt)

$36.2 \text{ mL soln} \times \frac{1 \text{ L soln}}{1000 \text{ mL soln}} \times \frac{1.7 \text{ mol } Ca(OH)_2}{1 \text{ L soln}} = 0.0615 \text{ mol } Ca(OH)_2$

b. How many moles of OH^- do you have? (extra credit 1/2 pt)

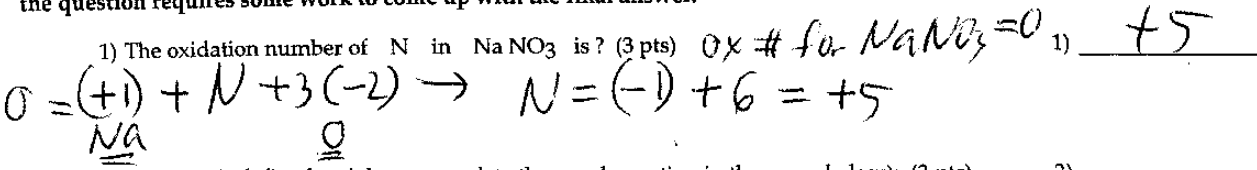
1 mol $Ca(OH)_2 \rightarrow$ gives 2 moles OH^- (above x 2)

or
 $36.2 \text{ mL soln} \times \frac{1 \text{ L soln}}{1000 \text{ mL soln}} \times \frac{1.7 \text{ mol } Ca(OH)_2}{1 \text{ L soln}} \times \frac{2 \text{ mol } OH^-}{1 \text{ mol } Ca(OH)_2} = 0.123 \text{ mol } OH^-$

Name key print _____ Name _____ sign _____

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SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question. Show work if the question requires some work to come up with the final answer.

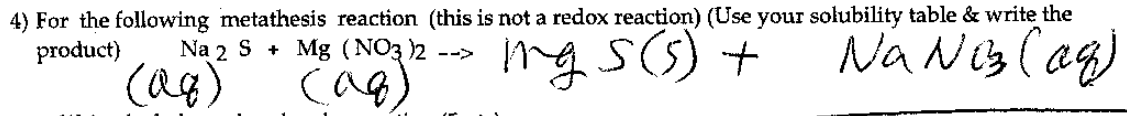


2) Molarity is defined as (please complete the word equation in the space below): (3 pts) 2) _____

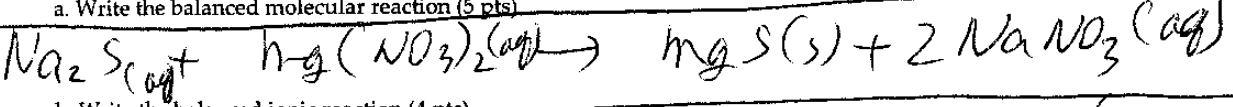
M = moles of solute
liter solution

3) If the system loses heat energy, the surrounding will _____ energy according to the first law of thermodynamics. (extra credit) (1/2 pt) 3) gain

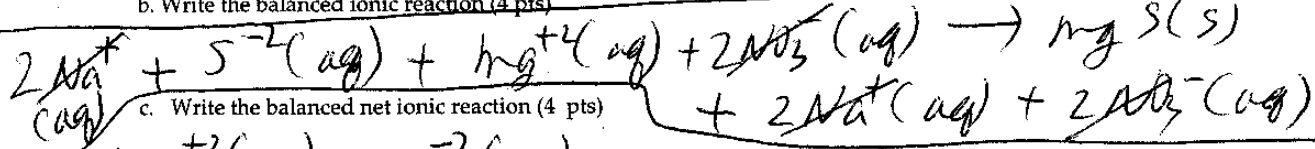
Long Answer. Write your answer in the space provided. Please show work for full credit and to receive partial credit for incorrect final answers. (write legibly please)



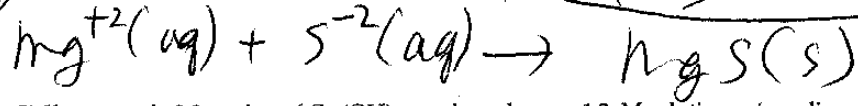
a. Write the balanced molecular reaction (5 pts)



b. Write the balanced ionic reaction (4 pts)



c. Write the balanced net ionic reaction (4 pts)



5) If you need 2.3 moles of Ca(OH)₂ and you have a 1.2 M solution, (use dimensional analysis to show)

How many mL of Ca(OH)₂ would you need? (extra credit 1 pt)

$$2.3 \text{ mol Ca(OH)}_2 \times \frac{1 \text{ liter Ca(OH)}_2 \text{ soln.}}{1.2 \text{ mol Ca(OH)}_2} \times \frac{1000 \text{ mL Ca(OH)}_2 \text{ soln}}{1 \text{ liter Ca(OH)}_2 \text{ soln}} = \frac{1916 \text{ mL}}{1} \text{ Ca(OH)}_2 \text{ soln}$$

$$1.9 \times 10^3 \text{ mL Ca(OH)}_2 \text{ soln}$$

Name Key print _____ Name _____ sign _____

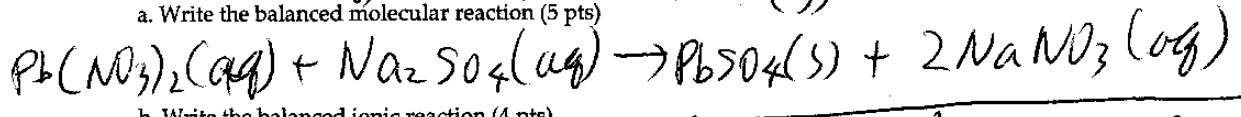
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SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question. Show work if the question requires some work to come up with the final answer.

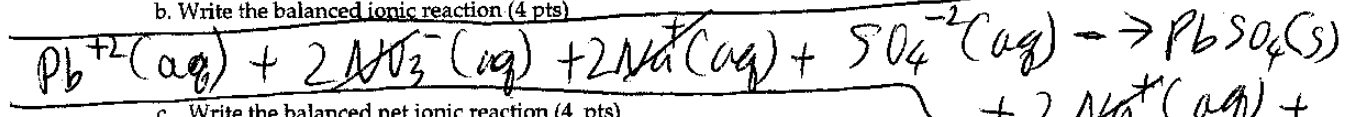
- 1) The oxidation number of S in Na_2SO_3 is? (3 pts) *ox state $\text{Na}_2\text{SO}_3 = 0$* 1) +4
 $0 = 2(+1) + S + 3(-2) \Rightarrow -2 + 6 = S$
 $+ 4 = S$
- 2) Molarity is defined as (please complete the word equation in the space below): (3 pts) 2) _____
 $M = \frac{\text{moles of solute}}{\text{liter solution}}$
- 3) If the system loses heat energy, the surrounding will _____ energy according to the first law of thermodynamics. (extra credit) (1/2 pt) 3) gain

Long Answer. Write your answer in the space provided. Please show work for full credit and to receive partial credit for incorrect final answers. (write legibly please)

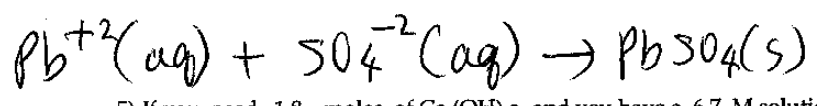
- 4) For the following metathesis reaction (this is not a redox reaction) (Use your solubility table & write the product) $\text{Pb}(\text{NO}_3)_2 + \text{Na}_2\text{SO}_4 \rightarrow \text{PbSO}_4 + 2\text{NaNO}_3(\text{aq})$
(aq) (aq) (s)
- a. Write the balanced molecular reaction (5 pts)



b. Write the balanced ionic reaction (4 pts)



c. Write the balanced net ionic reaction (4 pts)



- 5) If you need 1.8 moles of $\text{Ca}(\text{OH})_2$ and you have a 6.7 M solution, (use dimensional analysis to show)

How many mL of $\text{Ca}(\text{OH})_2$ would you need? (extra credit 1 pt)

$1.8 \text{ mol Ca}(\text{OH})_2 \times \frac{1 \text{ L soln}}{6.7 \text{ mol Ca}(\text{OH})_2} \times \frac{1000 \text{ mL soln}}{1 \text{ L soln}} = 268.6 \text{ mL soln}$
 \downarrow
 $2.7 \times 10^2 \text{ mL soln}$

Name _____ print _____ Name _____ sign _____

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SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question. Show work if the question requires some work to come up with the final answer.

1) The oxidation number of S in H_2SO_4 is? (3pts) 1) _____

2) Molarity is defined as (please complete the word equation in the space below): (3 pts) 2) _____

M = _____

3) If the system loses heat energy, the surrounding will _____ energy according to the first law of thermodynamics. (extra credit) (1/2 pt) 3) _____

Long Answer. Write your answer in the space provided. Please show work for full credit and to receive partial credit for incorrect final answers. (write legibly please)

4) For the following metathesis reaction (this is not a redox reaction) (Use your solubility table & write the product) $\text{Pb}(\text{NO}_3)_2 + \text{NaCl} \rightarrow$

a. Write the balanced molecular reaction (5 pts)

b. Write the balanced ionic reaction (4 pts)

c. Write the balanced net ionic reaction (4 pts)

5) If you have 46.7 mL of a 2.7 M solution of $\text{Ca}(\text{OH})_2$ (use dimensional analysis to show)

a. How many moles of $\text{Ca}(\text{OH})_2$ do you have? (extra credit 1/2 pt)

b. How many moles of OH^- do you have? (extra credit 1/2 pt)

Name _____ print _____ Name _____ sign _____

For long answer type questions, you must show all work for partial credit. Please write legibly. (I cannot grade what I cannot read.) Please print your name on the top back of the quiz so that I can return the quiz in a self serve fashion. (1 pts. for writing name on the back & front)

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question. Show work if the question requires some work to come up with the final answer.

1) The oxidation number of C in H_2CO_3 is? (3 pts) 1) _____

2) Molarity is defined as (please complete the word equation in the space below): (3 pts) 2) _____

M = _____

3) If the system loses heat energy, the surrounding will _____ energy according to the first law of thermodynamics. (extra credit) (1/2 pt) 3) _____

Long Answer. Write your answer in the space provided. Please show work for full credit and to receive partial credit for incorrect final answers. (write legibly please)

4) For the following metathesis reaction (this is not a redox reaction) (Use your solubility table & write the product) $K_2CO_3 + MgSO_4 \rightarrow$

a. Write the balanced molecular reaction (5 pts)

b. Write the balanced ionic reaction (4 pts)

c. Write the balanced net ionic reaction (4 pts)

5) If you have 36.2 mL of a 1.7 M solution of $Ca(OH)_2$ (use dimensional analysis to show)

a. How many moles of $Ca(OH)_2$ do you have? (extra credit 1/2 pt)

b. How many moles of OH^- do you have? (extra credit 1/2 pt)

Name _____ print _____

Name _____ sign _____

For long answer type questions, you must show all work for partial credit. Please write legibly. (I cannot grade what I cannot read.) Please print your name on the top back of the quiz so that I can return the quiz in a self serve fashion. (1 pts. for writing name on the back & front)

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question. Show work if the question requires some work to come up with the final answer.

1) The oxidation number of N in NaNO_3 is? (3 pts) 1) _____

2) Molarity is defined as (please complete the word equation in the space below): (3 pts) 2) _____

M = _____

3) If the system loses heat energy, the surrounding will _____ energy according to the first law of thermodynamics. (extra credit) (1/2 pt) 3) _____

Long Answer. Write your answer in the space provided. Please show work for full credit and to receive partial credit for incorrect final answers. (write legibly please)

4) For the following metathesis reaction (this is not a redox reaction) (Use your solubility table & write the product) $\text{Na}_2\text{S} + \text{Mg}(\text{NO}_3)_2 \rightarrow$

a. Write the balanced molecular reaction (5 pts)

b. Write the balanced ionic reaction (4 pts)

c. Write the balanced net ionic reaction (4 pts)

5) If you need 2.3 moles of $\text{Ca}(\text{OH})_2$ and you have a 1.2 M solution, (use dimensional analysis to show)

How many mL of $\text{Ca}(\text{OH})_2$ would you need? (extra credit 1 pt)

Name _____ print _____ Name _____ sign _____

For long answer type questions, you must show all work for partial credit. Please write legibly. (I cannot grade what I cannot read.) Please print your name on the top back of the quiz so that I can return the quiz in a self serve fashion. (1 pts. for writing name on the back & front)

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question. Show work if the question requires some work to come up with the final answer.

1) The oxidation number of S in Na_2SO_3 is? (3 pts) 1) _____

2) Molarity is defined as (please complete the word equation in the space below): (3 pts) 2) _____

M = _____

3) If the system loses heat energy, the surrounding will _____ energy according to the first law of thermodynamics. (extra credit) (1/2 pt) 3) _____

Long Answer. Write your answer in the space provided. Please show work for full credit and to receive partial credit for incorrect final answers. (write legibly please)

4) For the following metathesis reaction (this is not a redox reaction) (Use your solubility table & write the product) $\text{Pb}(\text{NO}_3)_2 + \text{Na}_2\text{SO}_4 \rightarrow$

a. Write the balanced molecular reaction (5 pts)

b. Write the balanced ionic reaction (4 pts)

c. Write the balanced net ionic reaction (4 pts)

5) If you need 1.8 moles of $\text{Ca}(\text{OH})_2$ and you have a 6.7 M solution, (use dimensional analysis to show)

How many mL of $\text{Ca}(\text{OH})_2$ would you need? (extra credit 1 pt)