Instructions: Determine the type of Stoichiometry Problems (Moles & Mass to Mass Problems) Instructions: Determine the type of Stoichiometry problem (moles A _ moles B or mass A _ mass B), then use stoichiometry to solve for the quantity requested.  1. How many moles of NH <sub>3</sub> are produced if 15.0 moles of N <sub>2</sub> is reacted with an excess of H <sub>2</sub> ?  N <sub>2 (w)</sub> + 3 H <sub>2 (w)</sub> 2 NH <sub>3 (w)</sub> 2. How many moles of silver (I) sulfide are formed when a 7.20 moles of silver reacts with sulfur?  2 Ag (w) + S (w) Ag <sub>2</sub> S (w)  3. If 20.0 grams of zinc reacts with hydrochloric acid, how many grams of zinc chloride are produced?  Zn (w) + 2 HCl (w) ZnCl <sub>2</sub> (w) + H <sub>2</sub> (w)  4. How many grams of chlorine gas are needed to react with excess sodium iodide if you need to produce 10.0 grams of sodium chloride?  Cl <sub>2</sub> (w) + 2 NaI (w) 2 NaCl (w) + I <sub>2</sub> (w)  5. How many grams of oxygen are produced in the decomposition of 5.00 grams of potassium chlorate (KClO <sub>3</sub> )?  2 KCl <sub>3</sub> (w) + 3 O <sub>2</sub> (w) + 3 O <sub>2</sub> (w)	Name:	Block:	Date:
then use stoichiometry to solve for the quantity requested.  1. How many moles of NH <sub>2</sub> are produced if 15.0 moles of N <sub>2</sub> is reacted with an excess of H <sub>2</sub> ?  N <sub>2 (g)</sub> + 3 H <sub>2 (s)</sub> 2 NH <sub>3 (g)</sub> 2. How many moles of silver (I) sulfide are formed when a 7.20 moles of silver reacts with sulfur?  2 Ag (s) + S (s) Ag <sub>2</sub> S (s)  3. If 20.0 grams of zinc reacts with hydrochloric acid, how many grams of zinc chloride are produced?  Zn (s) + 2 HCl (s) ZnCl <sub>2</sub> (s) + H <sub>2</sub> (g)  4. How many grams of chlorine gas are needed to react with excess sodium iodide if you need to produce 10.0 grams of sodium chloride?  Cl <sub>2</sub> (g) + 2 NaI (s) 2 NaCl (s) + I <sub>2</sub> (g)  5. How many grams of oxygen are produced in the decomposition of 5.00 grams of potassium chlorate (KClO <sub>3</sub> )?	IC Ch. 9: Worksheet – Stoichiometry Pro	oblems (Moles to I	Moles & Mass to Mass Problems)
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<ol> <li>How many moles of silver (I) sulfide are formed when a 7.20 moles of silver reacts with sulfur?         2 Ag (s) + S (s) Ag<sub>2</sub>S (s)</li> <li>If 20.0 grams of zinc reacts with hydrochloric acid, how many grams of zinc chloride are produced?         Zn (s) + 2 HCl (sq) ZnCl<sub>2</sub> (s) + H<sub>2</sub> (g)</li> <li>How many grams of chlorine gas are needed to react with excess sodium iodide if you need to produce 10.0 grams of sodium chloride?         Cl<sub>2</sub> (g) + 2 NaI (s) 2 NaCl (s) + I<sub>2</sub> (g)</li> <li>How many grams of oxygen are produced in the decomposition of 5.00 grams of potassium chlorate (KClO<sub>3</sub>)?</li> </ol>	1. How many moles of NH₃ are produced if 15	i.0 moles of N₂ is rea	cted with an excess of $H_2$ ?
3. If 20.0 grams of zinc reacts with hydrochloric acid, how many grams of zinc chloride are produced?  Zn (s) + 2 HCl (sq) ZnCl <sub>2</sub> (s) + H <sub>2</sub> (g)  4. How many grams of chlorine gas are needed to react with excess sodium iodide if you need to produce 10.0 grams of sodium chloride?  Cl <sub>2</sub> (g) + 2 NaI (s) 2 NaCl (s) + I <sub>2</sub> (g)  5. How many grams of oxygen are produced in the decomposition of 5.00 grams of potassium chlorate (KClO <sub>3</sub> )?	N <sub>2 (g)</sub> + 3 H <sub>2(s)</sub>	$2~\text{NH}_{3~(g)}$	
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<ul> <li>3. If 20.0 grams of zinc reacts with hydrochloric acid, how many grams of zinc chloride are produced? Zn (s) + 2 HCl (aq)</li></ul>	2. How many moles of silver (I) sulfide are for	med when a 7.20 m	oles of silver reacts with sulfur?
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Zn (s) + 2 HCl (aq) ZnCl <sub>2</sub> (s) + H <sub>2</sub> (g)  4. How many grams of chlorine gas are needed to react with excess sodium iodide if you need to produce 10.0 grams of sodium chloride?  Cl <sub>2</sub> (g) + 2 NaI (s) 2 NaCl (s) + I <sub>2</sub> (s)  5. How many grams of oxygen are produced in the decomposition of 5.00 grams of potassium chlorate (KClO <sub>3</sub> )?			
<ul> <li>4. How many grams of chlorine gas are needed to react with excess sodium iodide if you need to produce 10.0 grams of sodium chloride?</li> <li>Cl<sub>2</sub> (g) + 2 NaI (s) + I<sub>2</sub> (s)</li> <li>5. How many grams of oxygen are produced in the decomposition of 5.00 grams of potassium chlorate (KCIO<sub>3</sub>)?</li> </ul>	3. If 20.0 grams of zinc reacts with hydrochlor	ric acid, how many gı	rams of zinc chloride are produced?
produce 10.0 grams of sodium chloride?  Cl <sub>2 (g)</sub> + 2 NaI (s)	Zn (s) + 2 HCl (aq)	ZnCl <sub>2 (s)</sub>	+ H <sub>2 (g)</sub>
produce 10.0 grams of sodium chloride?  Cl <sub>2 (g)</sub> + 2 NaI (s)			
5. How many grams of oxygen are produced in the decomposition of 5.00 grams of potassium chlorate (KCIO <sub>3</sub> )?	How many grams of chlorine gas are needed produce 10.0 grams of sodium chloride?	ed to react with exce	ss sodium iodide if you need to
(KClO₃)?	Cl <sub>2 (g)</sub> + 2 NaI (s)	2 NaCl (s)	+ I <sub>2 (5)</sub>
(KClO₃)?			
3 KCl + 3 C		in the decomposition	of 5.00 grams of potassium chlorate
2 KClO <sub>3 (s)</sub> + 3 O <sub>2 (g)</sub>	2 KClO <sub>3 (s)</sub> 2 KCl <sub>(s)</sub>	+ 30	) <sub>2</sub> (g)