www.tutor-homework.com (for tutoring, homework help, or help with online classes)

1.

What is the molecular weight (molar mass) of calcium permanganate?
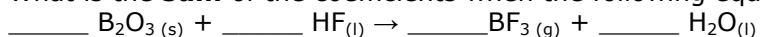
A. 216 g/mol
B. 159 g/mol
C. 287 g/mol
D. 199 g/mol

Score: 12/12

2.

What is the **sum** of the coefficients when the following equation is balanced?
_____ $B_2O_{3 (s)}$ + _____ $HF_{(l)}$ → _____$BF_{3 (g)}$ + _____ $H_2O_{(l)}$

A. 11
B. 8
C. 12
D. 15

3.

What is the mass of a single chlorine molecule, Cl_2

A. 70.90 g
B. 1.177 x 10^{-22} g
C. 5.887 x 10^{-23} g
D. 35.45 g

4.

How many moles are there in 1.50 g of ethanol, CH_3CH_2OH?

A. 0.0145 mol
B. 69.00 mol
C. 0.0326 mol

D. 30.70 mol

5.

How many moles of BCl_3 are needed to produce 25.0 g of $HCl_{(aq)}$ in the following reaction?
$BCl_{3\ (g)}$ + 3 $H_2O_{(l)}$ → 3 $HCl_{(aq)}$ + $B(OH)_{3\ (aq)}$
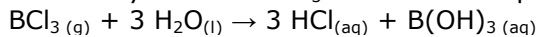
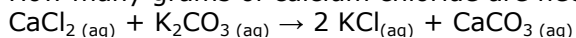| A. 4.38 mol |
| --- |
| B. 0.686 mol |
| C. 2.06 mol |
| D. 0.229 mol |

6.

How many grams of calcium chloride are needed to produce 2.50 g of potassium chloride
$CaCl_{2\ (aq)}$ + $K_2CO_{3\ (aq)}$ → 2 $KCl_{(aq)}$ + $CaCO_{3\ (aq)}$
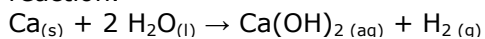
A. 3.72 g
B. 7.44 g
C. 0.537 g
D. 1.86 g

7.

When 14.0 g of calcium metal is reacted with water, 5.00 g of calcium hydroxide is produced. Using the following balanced equation, calculate the prevent yield for the reaction.
$Ca_{(s)}$ + 2 $H_2O_{(l)}$ → $Ca(OH)_{2\ (aq)}$ + $H_{2\ (g)}$

A. 9.67%
B. 35.7%
C. 19.3%
D. 66.0%

8.

Which of the following has the **greatest** mass?

A. 6.02 x 10^{23} molecules of O_2
B. 0.500 mol of O_2
C. 16.0 g of O_2

9.

What is the identity of an unknown substance, "X", if 0.380 mol of "X" weighs 17.5 g?

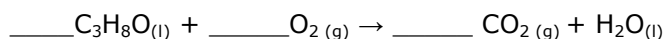| |
|---|
| A. NO_3 |
| B. NO_2 |
| C. N_2O_4 |
| D. N_2O |

1.

Classify each of the following changes as physical or chemical

dissolving sugar in coffee
baking a cake
burning wood in a fireplace

2.

What is the coefficient for oxygen (O_2) when the following equation is balanced?

$$\_\_\_\_C_3H_8O_{(l)} + \_\_\_\_O_2\ _{(g)} \rightarrow \_\_\_\_CO_2\ _{(g)} + H_2O_{(l)}$$

A. 3
B. 9
C. 5
D. 7

3.

Which of the following statements about balance equations is true?

A reaction is balanced by

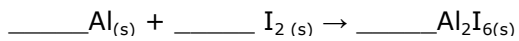| |
|---|
| A. changing the formula of the molecule |
| B. multiplying by coefficients |
| C. rearranging atoms in a molecule |
| D. changing the charge of the ion |

4.

What is the molar mass of of aspartic acid, $C_4O_4H_7N$?

A. 197 g/mol
B. 43 g/mol
C. 70 g/mol
D. 133 g/mol

5.

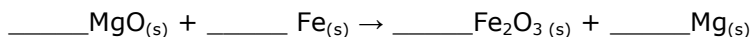Balance the chemical equation given below, and determine the number of moles of iodine that reacts with 10.0 g of aluminum.

_____ $Al_{(s)}$ + _____ $I_{2\ (s)}$ → _____ $Al_2I_{6(s)}$

A. 0.556 mol
B. 0.741 mol
C. 0.247 mol
D. 1.11 mol

6.

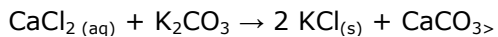Balance the chemical equation given below, and determine the number of grams of MgO needed to produce 15.0 g of Fe_2O_3

_____ $MgO_{(s)}$ + _____ $Fe_{(s)}$ → _____ $Fe_2O_{3\ (s)}$ + _____ $Mg_{(s)}$

A. 1.26 g
B. 3.78 g
C. 11.4 g
D. 0.0877 g

7.

How many grams of calcium chloride are needed to produce 10.0 g of potassium chloride?

$CaCl_{2\ (aq)}$ + K_2CO_3 → 2 $KCl_{(s)}$ + $CaCO_{3>}$

A. 14.9 g
B. 0.134 g
C. 29.8 g
D. 7.44 g

1.

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What is the coefficient for oxygen (O_2) when the following equation is balanced?

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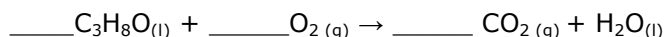
A. 7
B. 5
C. 9
D. 3

3.

Which of the following statements about balance equations is true?

A reaction is balanced by

A. multiplying by coefficients
B. changing the formula of the molecule
C. rearranging atoms in a molecule
D. changing the charge of the ion

4.

What is the molar mass of of aspartic acid, $C_4O_4H_7N$?

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C. 70 g/mol
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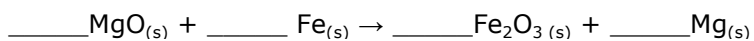
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$$_____ Al_{(s)} + _____ I_{2\ (s)} \rightarrow _____ Al_2I_{6(s)}$$
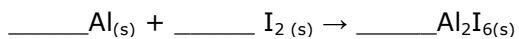
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| B. 0.741 mol |
| C. 0.247 mol |
| D. 0.556 mol |

6.

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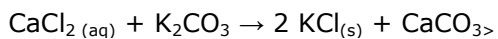
_____$MgO_{(s)}$ + _____ $Fe_{(s)}$ → _____$Fe_2O_{3\,(s)}$ + _____$Mg_{(s)}$

| A. 11.4 g |
| B. 0.0877 g |
| C. 3.78 g |
| D. 1.26 g |

Score: 2/2

7.

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$CaCl_{2\,(aq)}$ + K_2CO_3 → 2 $KCl_{(s)}$ + $CaCO_{3>}$

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| B. 7.44 g |
| C. 14.9 g |
| D. 29.8 g |

Score: 2/2