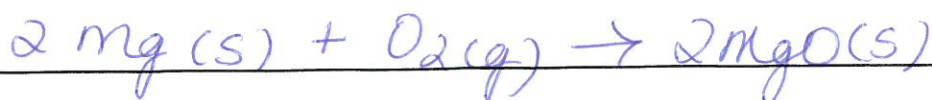


When magnesium metal burns in air, it combines with oxygen to form magnesium oxide.

Write the BCE for the above reaction with the proper subscripts.



Confirm this with someone!

What type of reaction is this: synthesis

A) How many moles of oxygen are required to produce 10 moles of magnesium oxide?

$$10 \text{ mol MgO} \times \frac{1 \text{ mol O}_2}{2 \text{ mol MgO}} = 5 \text{ mol O}_2$$

B) How many moles of magnesium oxide are produced by the reaction of 130 g of magnesium?

$$130 \text{ g Mg} \times \frac{1 \text{ mol Mg}}{24.3 \text{ g Mg}} \times \frac{2 \text{ mol MgO}}{2 \text{ mol Mg}} =$$

C) If 2.60 g of oxygen react, how many moles of magnesium oxide will form?

$$2.60 \text{ g O}_2 \times \frac{1 \text{ mol O}_2}{32 \text{ g O}_2} \times \frac{2 \text{ mol MgO}}{1 \text{ mol O}_2} =$$

D) What mass of oxygen combines with 10.00 g of magnesium in this reaction?

$$10.00 \text{ g Mg} \times \frac{1 \text{ mol Mg}}{24.3 \text{ g Mg}} \times \frac{1 \text{ mol O}_2}{2 \text{ mol Mg}} \times \frac{32 \text{ g O}_2}{1 \text{ mol O}_2} =$$

E) What mass of magnesium oxide will be produced by the reaction of 45.00 g of magnesium?

$$45.00 \text{ g Mg} \times \frac{1 \text{ mol Mg}}{24.3 \text{ g Mg}} \times \frac{2 \text{ mol MgO}}{2 \text{ mol Mg}} \times \frac{40.3 \text{ g MgO}}{1 \text{ mol MgO}} =$$

F) If  $3.6 \times 10^{26}$  molecules of oxygen are to react, how many moles of magnesium are required?

$$3.6 \times 10^{26} \text{ molec O}_2 \times \frac{1 \text{ mol O}_2}{6.02 \times 10^{23} \text{ molec O}_2} \times \frac{2 \text{ mol Mg}}{1 \text{ mol O}_2} =$$

G) If 1.50 g of magnesium reacts, how many oxygen atoms are involved?

$$1.50 \text{ g Mg} \times \frac{1 \text{ mol Mg}}{24.3 \text{ g Mg}} \times \frac{1 \text{ mol O}_2}{2 \text{ mol Mg}} \times \frac{6.02 \times 10^{23} \text{ molec O}_2}{1 \text{ mol O}_2} \times \frac{2 \text{ atoms O}}{1 \text{ molec O}_2} =$$