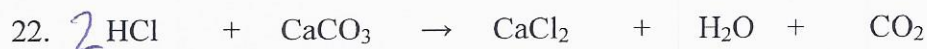
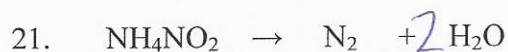
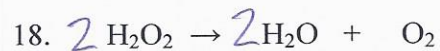
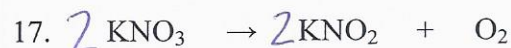
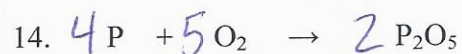
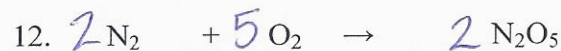
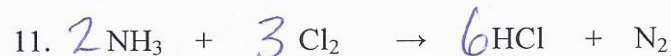
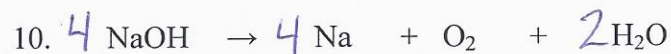
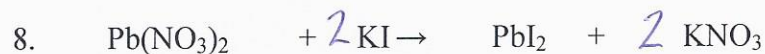
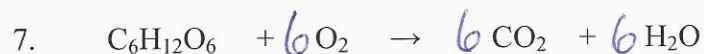
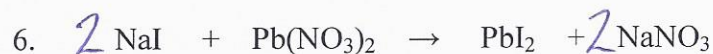
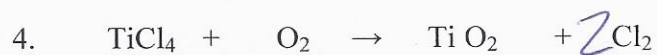
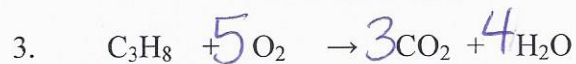
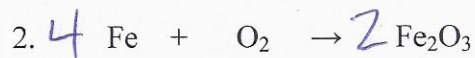
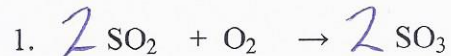
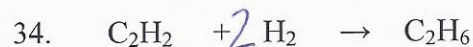
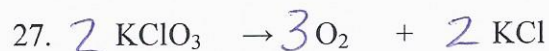
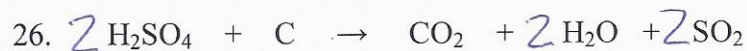
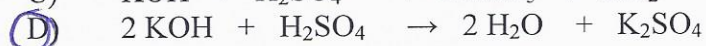
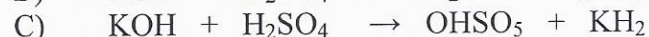


Balance the equations





41. Choose the balanced equation



47. The combustion of 16 g of methane (CH₄) in 64 g of oxygen gas (O₂) produces 36 g of water (H₂O) and a certain mass of carbon dioxide (CO₂). The following balanced equation represents this combustion reaction:

Combustion Reaction Involving Methane



$$16 + 64 = 36 + ?$$

$$80 - 36 = 44\text{g}$$

The combustion of 11 g of propane (C₃H₈) in 40 g of oxygen gas (O₂) produces 18 g of water (H₂O) and a certain mass of carbon dioxide (CO₂). The following balanced equation represents this combustion reaction:

Combustion Reaction Involving Propane





$$11 + 40 = 18 + ?$$













$$51 - 18 = 33\text{g}$$

Which of these two reactions produces the smaller mass of carbon dioxide (CO₂)? For each reaction, show the calculations required to determine the mass of carbon dioxide (CO₂) produced.

Second reaction produces less CO₂.

48. Carbon burns in the presence of oxygen, O₂, to form carbon dioxide, CO₂.

The carbon atom is represented by  and the oxygen atom by . Which model represents this chemical reaction?

- A)  +  →  + Energy
- B)  +  →  + Energy
- C)  +  →  + Energy
- D)  +  →  + Energy