**Atom economy**

**1.** Calculate the atom economy for this reaction where hydrogen is the desired product.

**CH4 + H2O 🡪 CO + 3H2**

**2.** Calculate the atom economy for this reaction where calcium chloride is the desired product.

**CaCO3 + 2HCl 🡪 CaCl2 + CO2 + H2O**

**3.** Calculate the atom economy for this reaction where nitrogen is the desired product.

**4NH3 + 6NO 🡪 5N2 + 6H2O**

**4.** Calculate the atom economy for this reaction where C2H3O2CCH3 is the desired product.

**C2H4 + CH3CO2H + ½O2 🡪 C2H3O2CCH3 + H2O**

**5.** Calculate the atom economy for this reaction where nitrogen is the desired product.

**4NH3 + 6NO 🡪 5N2 + 6H2O**

**6.** Calculate the atom economy for this reaction where C2H3O2CCH3 is the desired product.

**C2H4 + CH3CO2H + ½O2 🡪 C2H3O2CCH3 + H2O**

**7.** Calculate the atom economy for this reaction where H2O is the desired product.

**C2H5OH + CH3COOH 🡪 CH3COOC2H5 + H2O**