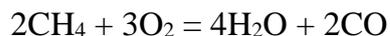
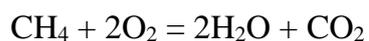


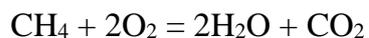
The methane conversion into CO₂ and CO can be described by next reactions:



If the ratio between CO₂ and CO is 99: 1, total volume of methane is $y \text{ dm}^3$

In both reactions methane is converted in equivalent amount/volume of carbon containing gas. So volumes of CO₂ and CO are $0.99 y$ and $0.01y$. Now it is possible to find volume of oxygen:

$$X1 \qquad 0.99y$$

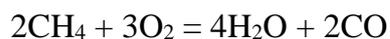


$$2 \qquad 1$$

$$X1 = 2 * 0.99y = 1.98y$$

For next reaction:

$$X2 \qquad 0.01y$$



$$3 \qquad 2$$

$$X2 = 3 * 0.01y / 2 = 0.015y$$

$$\text{Total volume is } X1 + X2 = 1.98y + 0.015y = 1.995y$$