1. Calculate the mass of water produced when 9.44 g of butane reacts with excess oxygen.

| 9.44 g |  |
| :--- | ---: |
| $2 \mathrm{C}_{4} \mathrm{H}_{10}+13 \mathrm{O}_{2} \rightarrow 8 \mathrm{CO}_{2}+10 \mathrm{Hg}_{2} \mathrm{O}$ |  |
| $2 * 58$ | $10 * 18$ |

$\mathrm{X}=9.44 * 10 * 18 / 2 * 58=14.648 \mathrm{~g}-$ the mass of water produced
2. Calculate the mass of butane needed to produce 99.5 g of carbon dioxide.

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Yg 99.5 g
2 C4H10}+13\mp@subsup{\textrm{O}}{2}{}->8\mp@subsup{\textrm{CO}}{2}{}+10\mp@subsup{\textrm{H}}{2}{}\textrm{O
2*58 8*44
```

$\mathrm{Y}=2 * 58 * 99.5 / 8 * 44=32.79 \mathrm{~g}$ - the mass of butane

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