

■■■ Opgave 1

- 8p 1 Neem de volgende reactieschema's over en schrijf ze in symbolen. Denk aan de toestanden.
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| a. koper + zuurstof → koperoxide | $\text{Cu(s)} + \text{O(g)} \rightarrow \text{Cu}_2\text{O(s)}$ |
| b. waterstof + zuurstof → water | $\text{H(g)} + \text{O(g)} \rightarrow \text{H}_2\text{O(l)}$ |
| c. lood + broom → loodbromide | $\text{Pb(s)} + \text{Br}_2\text{(g)} \rightarrow \text{PbBr}_2\text{(s)}$ |
| d. barium + zwavel → bariumsulfide | $\text{Ba(s)} + \text{S(s)} \rightarrow \text{BaS(s)}$ |
- 5p 2 Neem de volgende reactieschema's over en vul de ontbrekende namen in.
- zink + chloor → zinkchloride
 - kalium + jood → kaliumjodide
 - natrium + fluor → natriumfluoride
 - stikstof + waterstof → ammoniak

■■■ Opgave 2

- 3
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|----|------------------------|-------------------------|
| 3p | a. $16 \times 32/27 =$ | 19,0 g O ₂ . |
| 2p | b. $8 \times 8/1 =$ | 64 g O ₂ . |
| 3p | c. $7 \times 8/3 =$ | 18,7 g O ₂ . |

■■■ Opgave 4

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| 3p | a. $\text{Na}_2\text{O(s)} + \text{H}_2\text{O(l)} \rightarrow \text{H}_2\text{(g)} + \text{NaOH(aq)}$ |
| 3p | b. $\text{CuS(s)} + \text{HCl(aq)} \rightarrow \text{CuCl}_2\text{(s)} + \text{H}_2\text{S(g)}$ |
| 3p | c. $\text{CaO(s)} + \text{H}_2\text{O(l)} \rightarrow \text{Ca(OH)}_2\text{(s)}$ |

■■■ Opgave 5

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| 2p | a. $\text{Mg(s)} + \text{N}_2\text{(g)} \rightarrow \text{Mg}_3\text{N}_2\text{(s)}$ |
| 2p | b. De reactie is exotherm, want er komt energie vrij in de vorm van licht. |
| 2p | c. $\text{Mg}_3\text{N}_2\text{(s)} + \text{H}_2\text{O(l)} \rightarrow \text{Mg(OH)}_2\text{(s)} + \text{NH}_3\text{(g)}$ |
| 2p | d. $\text{NH}_3\text{(g)} + \text{O}_2\text{(g)} \rightarrow \text{N}_2\text{(g)} + \text{H}_2\text{O(l)}$ |
| 2p | e. Van N, want er wordt mee begonnen en mee geëindigd. |

■■■ Opgave 6

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|----|----------------------------|---|
| 4p | 6 <input type="checkbox"/> | $(65 \times 19/39)/1,6 = 19,8 \text{ l F}_2$ |
| 3p | 7 <input type="checkbox"/> | $25,6 \times 19/31 = 15,7 \text{ g F}_2$ |
| 1p | 8 <input type="checkbox"/> | a. Mg : O = 3 : 2 |
| 3p | | b. $19 \times 2/3 = 12,7 \text{ g O}_2$ of $19 \times 3/4 = 14,25 \text{ g O}_2$ |
| 3p | | c. $12 \times 3/2 + 12 = 30 \text{ g MgO}$ of $12 \times 4/3 + 12 = 28 \text{ g MgO}$ |
- 54p