Acids and Bases: Solutions









REDOX Reactions

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| **QUESTION 9/*VRAAG 9*** |  |  |

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| 9.19.1.1 | Oxidation is an increase in oxidation number.🗸🗸*Oksidasie is 'n toename in oksidasiegetal.* |  | (2) |

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| 9.1.2 | 2Cr + 7O = -22Cr + (-14) = 2Cr = +6 🗸 |  | (1) |

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| 9.1.3 | 2H + 2O = 02 + 2O = 0O = -1 🗸 |  | (1) |

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| 9.29.2.1 | A reducing agent loses/donates electrons. 🗸🗸*'n Reduseermiddel verloor/skenk elektrone.* |  | (2) |

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| 9.2.2 | Fe2+(aq) 🗸 |  | (1) |

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| 9.2.3 | Cℓ2(g) 🗸 |  | (1) |

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| 9.2.4 | Cℓ2(g) + 2e- → 2Cℓ-🗸🗸 |  |  |
|  | **Marking guidelines/*Nasienriglyne:**** Cℓ2 + 2e- ⇌ 2Cℓ-   2Cℓ- ⇌ Cℓ2 + 2e-
* 2Cℓ- ← Cℓ2 + 2e-  2Cℓ- → Cℓ2 + 2e-
 |  | (2) |

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| 9.2.5 | Fe2+(aq) → Fe3+(aq) + e- 🗸🗸 |  |  |
|  | **Marking guidelines/*Nasienriglyne:**** Fe2+ ⇌ Fe3+ + e-   Fe3+ + e- ⇌ Fe2+
* Fe3+ + e- ← Fe2+  Fe3+ + e- → Fe2+
 |  | (2) |

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| 9.2.6 | 2Fe2+(aq) + Cℓ2(g) → 2Fe3+(aq) + 2Cℓ- 🗸🗸 |  |  |
|  | **Notes/*Aantekeninge:**** Ignore double arrows./*Ignoreer dubbelpyle.*
 |  | (2) |
|  |  |  | **[14]** |