**Marking Commentary: an example**

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| **Question** | **Comments on dummy paper** | **Mark**  |
| 1 | Correct answer – x can be ignored as student clearly stating base as answer | 1 |
| 1.2 | Clear student understands answer is forces | 1 |
| 1.3 | Idea of transfer understoodTwo marks for correctly getting charges right. Number of electrons not stated so mark not given | 3 |
| 2.1 | Correct answer | 1 |
| 2.2 | 1 mark for line of best fitPlotting is incorrect | 1 |
| 2.3 | Correct answer and lovely method! | 2 |
| 2.4 | RFM of TiCl4 is wrongBut ecf for calculation and sig figs. | 2 |
| 2.5 | Not clear what ‘it’ represents | 0 |
| 2.6 | Free electrons is correct but not on the outer shell, so this negates the mark.Free to move gains 1 mark | 1 |
| 3.1 | Correct | 1 |
| 3.2 | Correct | 1 |
| 3.3 | R and S scores 1 markCan’t credit same number of electronsCredit different amount of neutrons  | 2 |
| 3.4 | Simple statements here about halogens but not about trend in reactivity. No attempt to explain.  | 1 |
| 4.1 | Diagram correct with electrodes Incorrect use of – and + - wrong way round | 1 |
| 4.2 | From this answer the student only implies that they understand that copper 2+ is They show copper ions are reduced to copper. Don’t quite make the link clear to concentration to gain this mark.  | 1 |
| 4.3 | Got idea that copper ions are positiveMove to and attracted are similar to can gain credit hereGain electrons correct and reduction mentioned | 4 |
| 4.4 | Student has got confused and found out mass in 1cm3 and failed to convert to 50 cm3.  | 0 |
| 5.1 | Correct – do not penalise electron arrangements e.g. not paired as this question is not assessing this.  | 1 |
| 5.2 | Detailed answer but candidate has not commented on how they will compare the volume of gas produced. Will they measure final volume or rate?  | Level 2 4 marks  |
| 6.1 | Activation energy shown but NOT overall energy change | 1 |
| 6.2 | One error here, not multiplying 464 x 4. Should be exothermic.  | 1 |
| 6.3 | Although a clear method the candidate has not answered the question. This is not about exothermic reactions and is using the wrong acid. Some techniques correctly described e.g. mass of metals. Volume of acid.  | Level 1 2  |
| 6.4 | Logic is correct | 3 |
| 6.5 | No answer | 0 |
|  | **Total** | **35** |