**How to get marks for Integration by Substitution questions**

1. Correct integral all in terms of u (i.e. no *x*’s) and including the *du*
2. Correct simplification of the integral, ready for integrating
3. Correct integration
4. Correct conversion of limits or re-substitution for *x*’s
5. Correct final answer in required format

(Note that there may be more marks available if question is more complicated)

**How to get marks for Integration by Substitution Questions**

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| --- | --- | --- | --- | --- | --- |
| Question & substitution |  |  |  |  |  |
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|  |  |  |  |  |  |
| Correct integral all in terms of u (i.e. no *x*’s) and including the *du* |  |  |  |  |  |
| Correct simplification of the integral, ready for integrating |  |  |  |  |  |
| Correct integration |  |  |  |  |  |
| Correct conversion of limits or  re-substitution for *x*’s |  |  |  |  |  |
| Correct final answer  in required format |  |  |  |  |  |
| Exam Paper Ref. | AQA Jan 2010 | AQA Jan 2011 | AQA Jan 2012 | AQA June 2012 | AQA June 2013 |

**How to get marks for Integration by Substitution Questions - Answers**

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| --- | --- | --- | --- | --- | --- |
| Question & substitution |  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |  |
| Correct integral all in terms of u (i.e. no *x*’s) and including the *du* |  |  |  |  |  |
| Correct simplification of the integral, ready for integrating |  |  |  |  |  |
| Correct integration |  |  |  |  |  |
| Correct conversion of limits or  re-substitution for *x*’s | |  |  | | --- | --- | | *x* | *u* | | 3 | 5 | | 1 | 1 | | |  |  | | --- | --- | | *x* | *u* | | 1 | 4 | | 0 | 1 | | |  |  | | --- | --- | |  | *x* | | 2 |  | |  |  | | |  |  | | --- | --- | | *x* | *U* | | 1 | 3 | | 0 | 2 | | |  |  | | --- | --- | | *x* | *u* | | 4 | 2 | | 1 | 1 | |
| Correct final answer  in required format |  |  |  |  |  |
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