Worksheet One

Integration with Substitution

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Questions and Exercises

You may **not** use calculators, computers, etc. No help from any person other than yourself and from any notes other than your own. You may use other books: from the library, from a professor, etc. Use pencil only. All the necessary & sufficient steps for a solution should be shown - further, justification for each step should be provided. If an answer does not exist write D.N.E. (Does Not Exist) and explain why it does not exist.

Let $U = \mathbb{R} \times \mathbb{R}$

1. Evaluate
$$\int (x^3 \cdot (x+2)^2) dx$$
2. Find
$$\int (x \cdot (x^2+7)^5) dx$$
3. Find
$$\int (x \cdot (\sin(x^2))) dx$$
4. Find
$$\int \left(\frac{x^3+7}{\sqrt{x}} \right) dx$$

Do problems in the book page 291: 13 - 51 every other odd.