**ADVANCED MULTIVARIABLE CALCULUS**

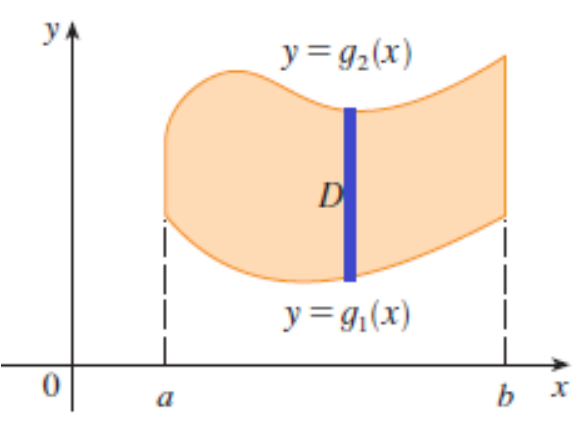
**Multiple Integration**

* When **multiple variables** are involved in an **integral equation**, we call it ***multiple integration***.
* **Double integration** means **two** variables are involved.

**Evaluation of Double Integration**

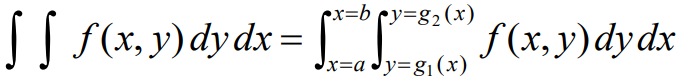
* We do it using **Fubini’s theorem**.
* There are **two** methods to perform it.

**Method I:**

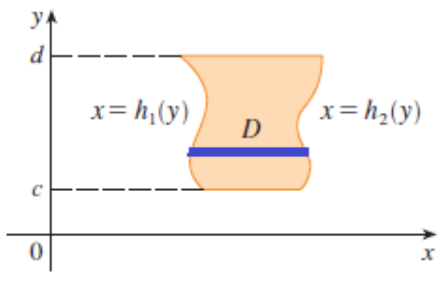
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**Limit of x = a to b**

**Limit of y = g1(x) to g2(x)**

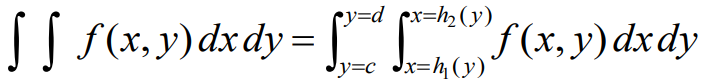
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**Method II:**

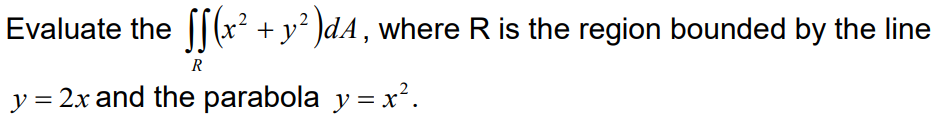
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**Limit of x = h1(y) to h2(y)**

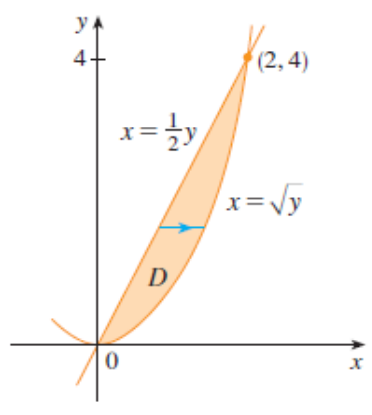
**Limit of y = c to d**

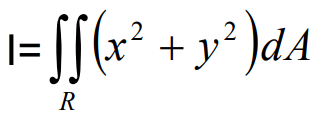
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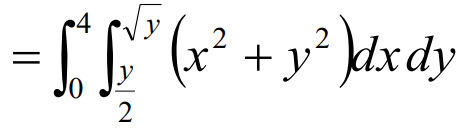
**For example:**

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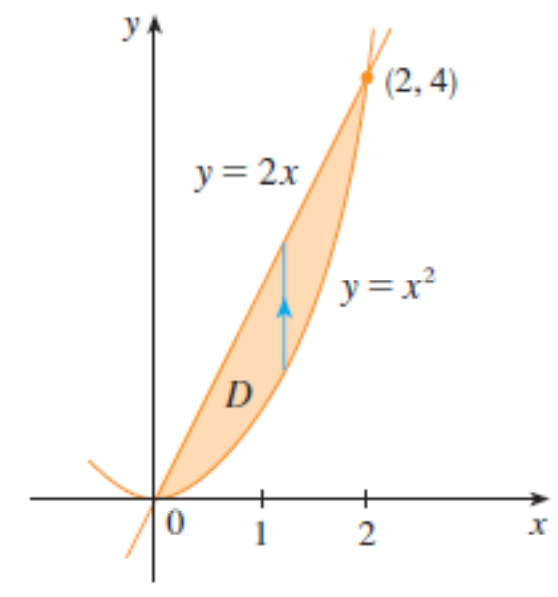
**Solution:**

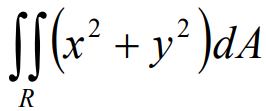
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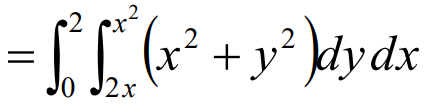
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**OR**

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