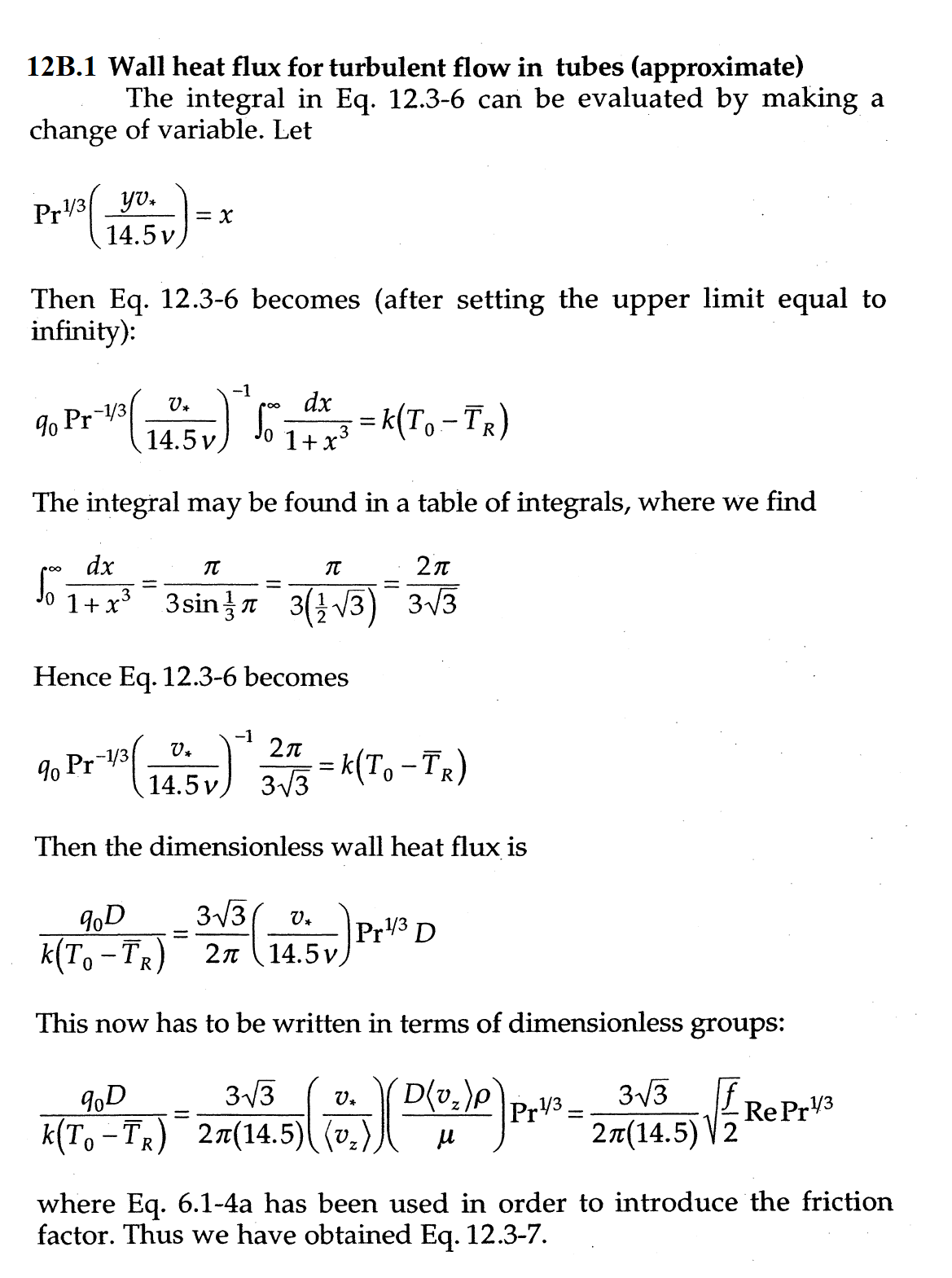
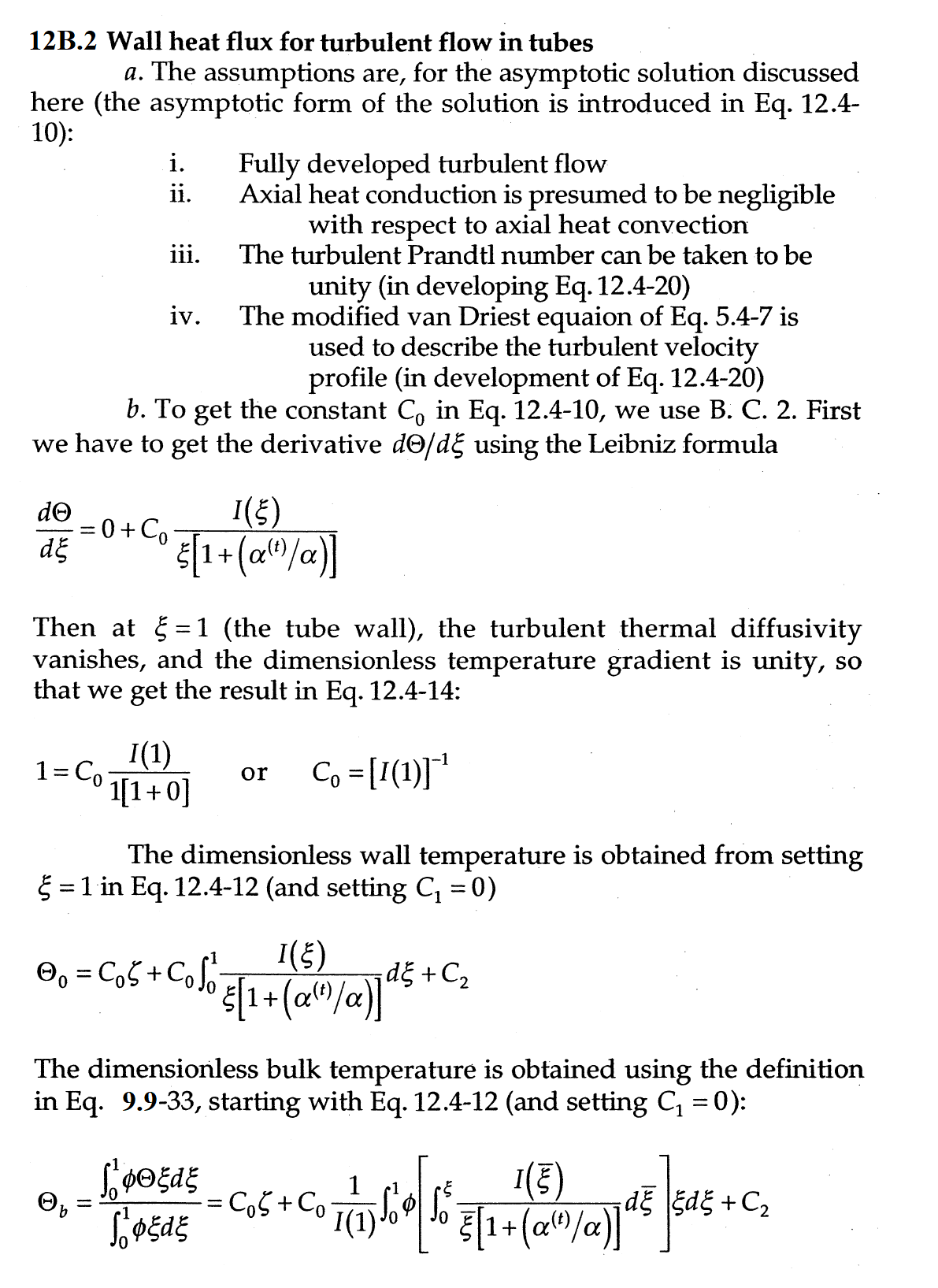
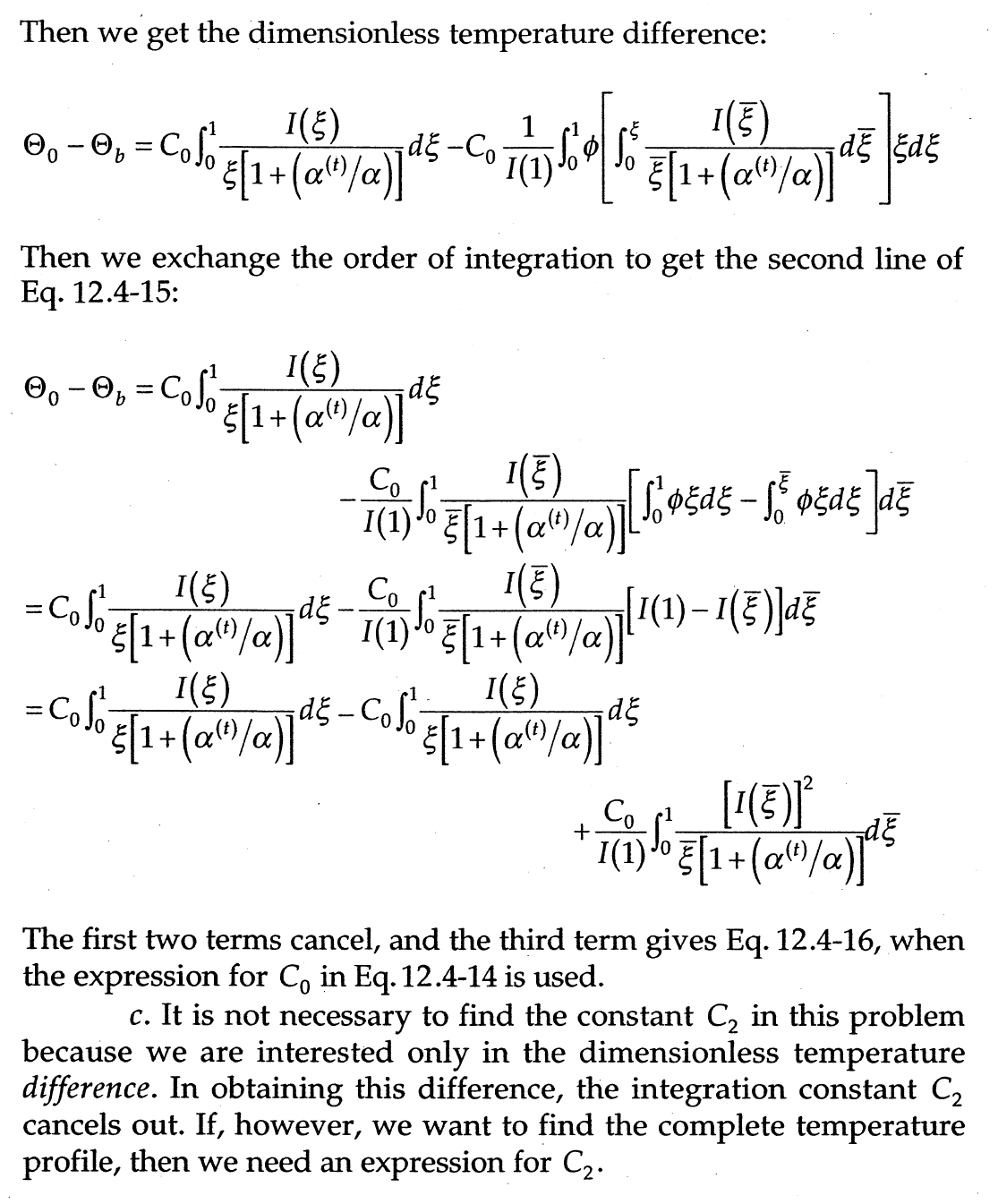
**Solution Manual for Chapter – 12**

**12A.1 Wall heat flux for turbulent flow in tubes (approximate)**

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**12A.2 Wall of heat flux for turbulent flow in tubes**

****

****

***d*. Substituting the values of *f* and *α*(+) into Eq. 12.4-16**

****

** (12.4-16)**

****

****

****

****

****

**Now,**

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****

**We know**

** (See the entry in Table 14.2-1)**

**For plug flow**

****

****

** (1)**

****

**Now, substituting the values back in Eq. (1), we have**

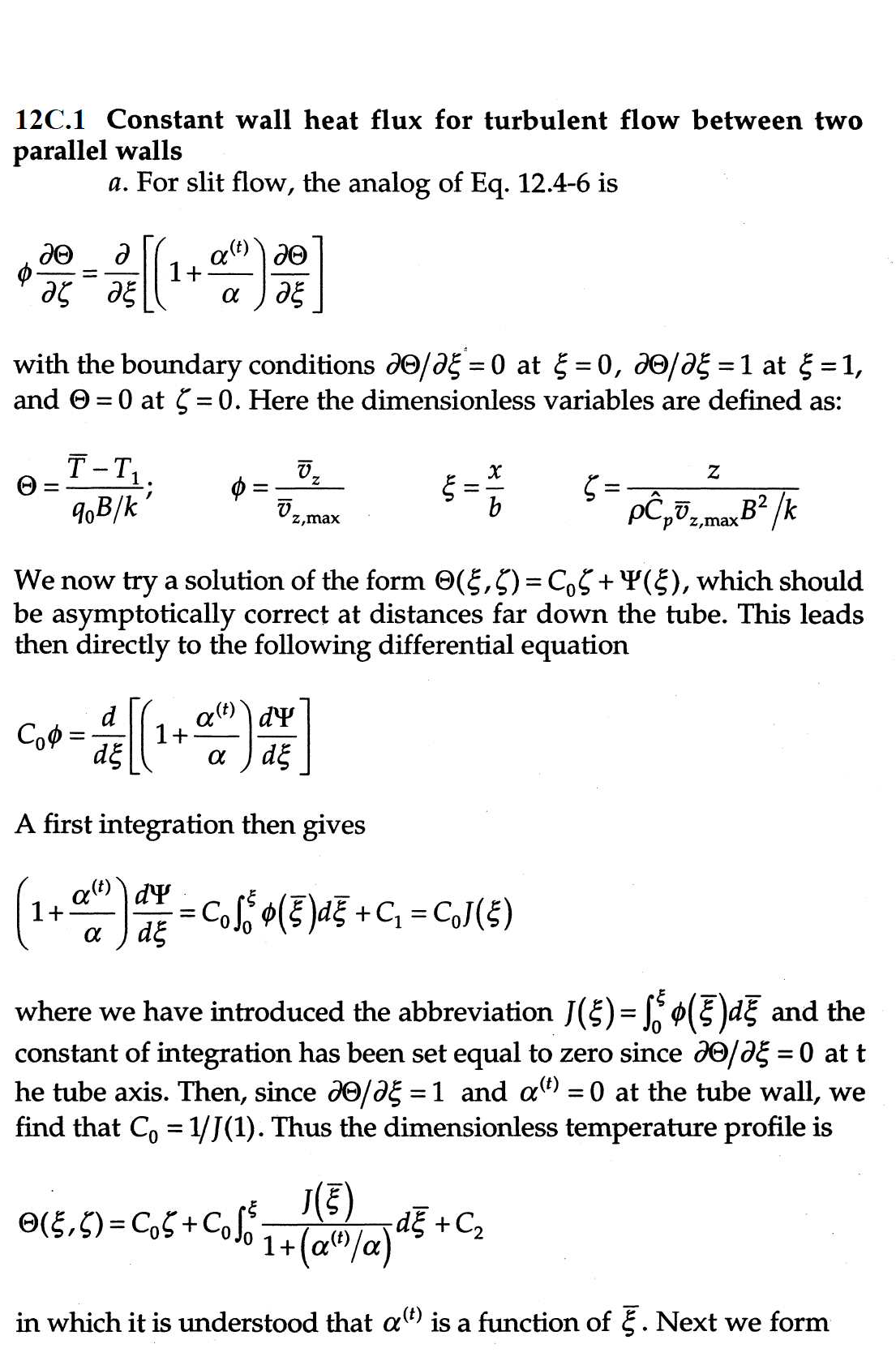
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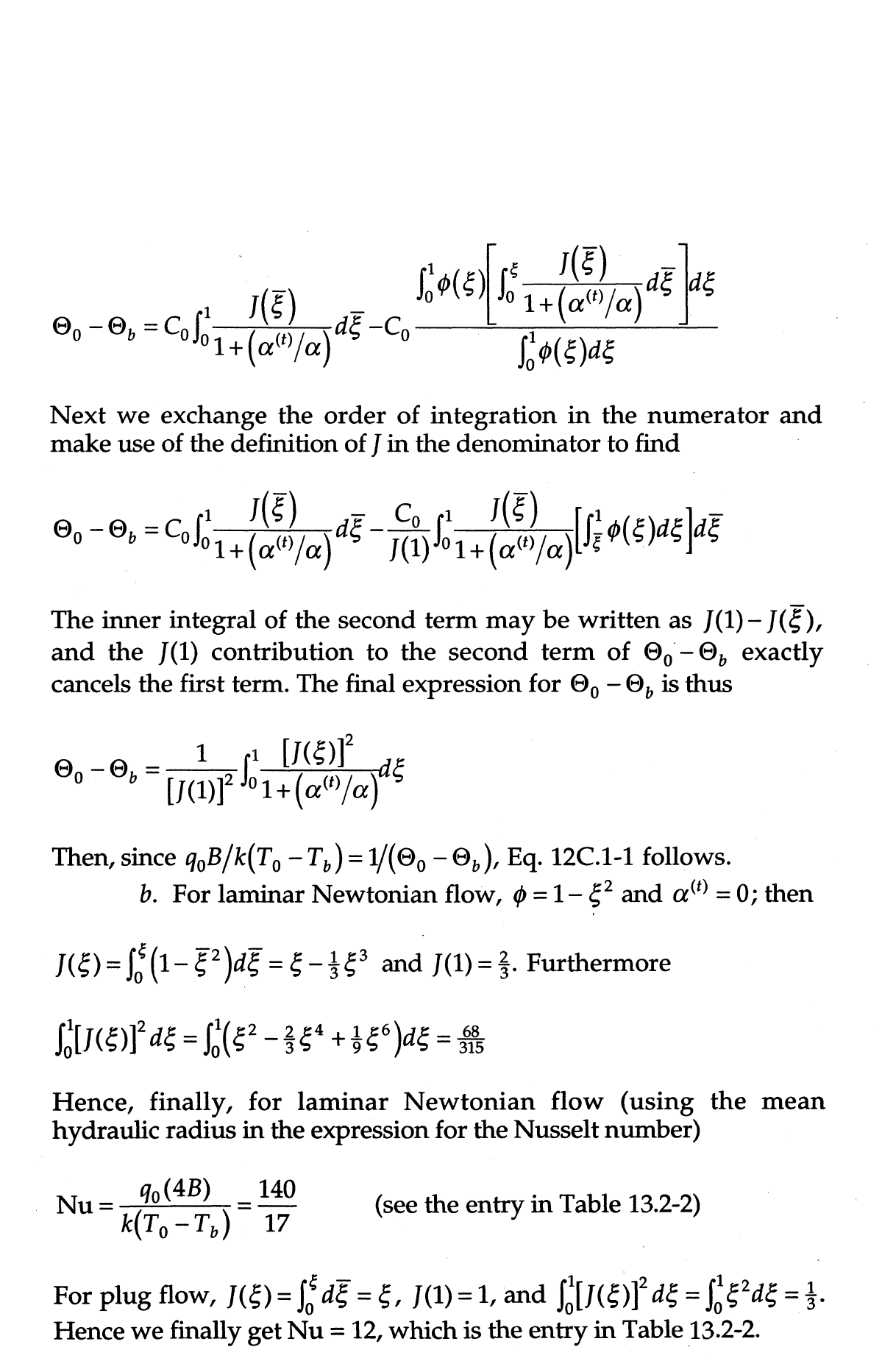
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**Again,**

** (See the entry in Table 14.2-1)**

**12B.1 Constant wall heat flux for turbulent flow between two parallel walls**

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