

**Ch.1 21-23**

Problem: Stuck on derivation of 21. (This problem is proven in Ch. 5)

**Ch.2 18.c** Prove that  $\sqrt{2} + \sqrt[3]{2}$  is irrational.

Problem: Can't find coefficients integer  $a_i$  such that  $0 = (\sqrt{2} + \sqrt[3]{2})^n + (\sqrt{2} + \sqrt[3]{2})^{n-1}a_{n-1} + \dots + a_0$ . This solution would imply that  $\sqrt{2} + \sqrt[3]{2}$  is irrational by 18.a.

**Ch.2 21.c** Prove the Schwarz Inequality by first showing that  $\sum_{i=1}^n x_i^2 * \sum_{i=1}^n y_i^2 = (\sum_{i=1}^n x_i y_i)^2 + \sum_{i < j} (x_i y_j - x_j y_i)^2$ .

Problem: Unable to verify the equation. (This equation, obtained from the solution manual, is supposedly the general form equivalent to the one used for Ch.1 19.c).